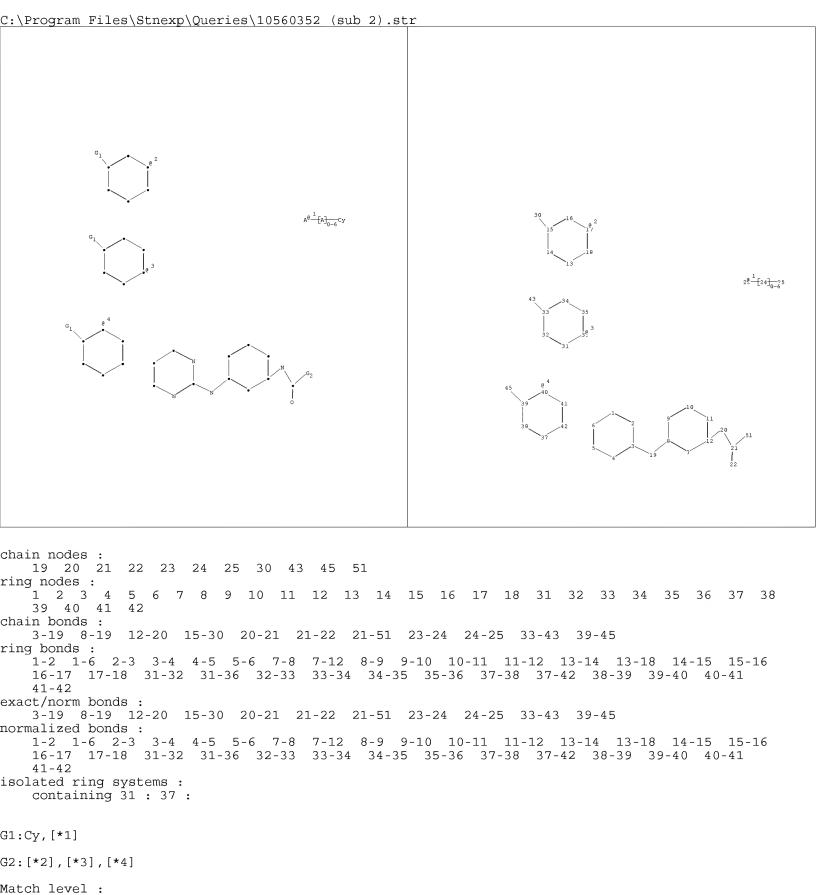


Saturation

: Unsaturated



1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:Atom 30:CLASS 31:Atom 32:Atom 33:Atom 34:Atom 35:Atom 36:CLASS 37:Atom 38:Atom 39:Atom 40:CLASS 41:Atom 42:Atom 43:CLASS 45:CLASS 51:CLASS

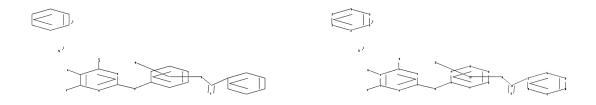
=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

- => screen 1841
- L1 SCREEN CREATED
- => screen 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047
- L2 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10560352 (b).str



```
chain nodes :
19 20 21 24 25 26 37 38 39
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 27 28 29 30 31
32
chain bonds :
1-37 3-19 5-39 6-38 8-19 15-24 20-24 24-25
ring bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 7-8 \quad 7-12 \quad 8-9 \quad 9-10 \quad 10-11 \quad 11-12 \quad 13-14 \quad 13-18
14-15 15-16 16-17 17-18 27-28 27-32 28-29 29-30 30-31 31-32
exact/norm bonds :
1-37 3-19 8-19 20-24 24-25
exact bonds :
5-39 6-38 15-24
normalized bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 7-8 \quad 7-12 \quad 8-9 \quad 9-10 \quad 10-11 \quad 11-12 \quad 13-14 \quad 13-18
14-15 \quad 15-16 \quad 16-17 \quad 17-18 \quad 27-28 \quad 27-32 \quad 28-29 \quad 29-30 \quad 30-31 \quad 31-32
isolated ring systems :
containing 1 : 7 : 13 : 27 :
G1:[*1],[*2]
Match level:
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS
20:CLASS 21:CLASS 22:Atom 23:Atom 24:CLASS 25:CLASS 26:Atom 27:Atom 28:Atom
 29:Atom 30:Atom 31:Atom 32:Atom 37:CLASS 38:CLASS 39:CLASS
Generic attributes :
26:
Saturation
                       : Unsaturated
L3
        STRUCTURE UPLOADED
=> que L3 AND L1 NOT L2
L4 QUE L3 AND L1 NOT L2
=> d 14
L4 HAS NO ANSWERS
T.1
                 SCR 1841
                 SCR 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047
L2
T.3
                 STR
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
Structure attributes must be viewed using STN Express query preparation.
L4
                QUE L3 AND L1 NOT L2
\Rightarrow s 14 sss sam
SAMPLE SEARCH INITIATED 18:53:13 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 2881 TO ITERATE
```

## 10/560,352

69.4% PROCESSED 2000 ITERATIONS 25 ANSWERS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 54401 TO 60839 PROJECTED ANSWERS: 360 TO 1080

L5 25 SEA SSS SAM L3 AND L1 NOT L2

=> => s 14 sss ful

FULL SEARCH INITIATED 18:55:13 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 58808 TO ITERATE

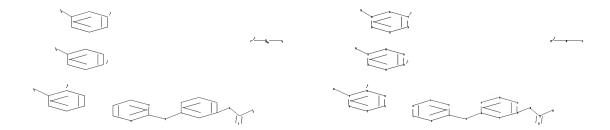
100.0% PROCESSED 58808 ITERATIONS 627 ANSWERS

SEARCH TIME: 00.00.06

L6 627 SEA SSS FUL L3 AND L1 NOT L2

=>

Uploading C:\Program Files\Stnexp\Queries\10560352 (sub 2).str



```
chain nodes :
19  20  21  22  23  24  25  30  43  45  51
ring nodes :
1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  31  32  33  34  35
36  37  38  39  40  41  42
chain bonds :
3-19  8-19  12-20  15-30  20-21  21-22  21-51  23-24  24-25  33-43  39-45
ring bonds :
1-2  1-6  2-3  3-4  4-5  5-6  7-8  7-12  8-9  9-10  10-11  11-12  13-14  13-18
14-15  15-16  16-17  17-18  31-32  31-36  32-33  33-34  34-35  35-36  37-38  37-42
38-39  39-40  40-41  41-42
```

## 10/560,352

G1:Cy, [\*1]

G2:[\*2],[\*3],[\*4]

Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:Atom 30:CLASS 31:Atom 32:Atom 33:Atom 34:Atom 35:Atom 36:CLASS 37:Atom 38:Atom 39:Atom 40:CLASS 41:Atom 42:Atom 43:CLASS 45:CLASS 51:CLASS

L7 STRUCTURE UPLOADED

=> d 17

L7 HAS NO ANSWERS
L7 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s 17 sub=16 sss sam

SAMPLE SUBSET SEARCH INITIATED 19:01:34 FILE 'REGISTRY'

SAMPLE SUBSET SCREEN SEARCH COMPLETED - 37 TO ITERATE

100.0% PROCESSED 37 ITERATIONS 29 ANSWERS SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET): ONLINE \*\*COMPLETE\*\*
PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET): 376 TO 1104
PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET): 257 TO 903

L8 29 SEA SUB=L6 SSS SAM L7

=> => s 17 sub=16 sss ful FULL SUBSET SEARCH INITIATED 19:04:09 FILE 'REGISTRY' FULL SUBSET SCREEN SEARCH COMPLETED - 616 TO ITERATE

100.0% PROCESSED 616 ITERATIONS 404 ANSWERS SEARCH TIME: 00.00.01

L9 404 SEA SUB=L6 SSS FUL L7

=> s 16 not 19 L10 223 L6 NOT L9

=> => s 110 L11 62 L10

=> d 111 1-62 bib,ab,hitstr

```
L11 ANSWER 1 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
```

AN 2008:1479564 CAPLUS

DN 150:35385

- TI Preparation of phenylaminopyrimidine derivatives as inhibitors of BCR-ABL kinase for treating cancer
- IN Kompella, Amala Kishan; Adibhatla Kali Satya, Bhujanga Rao; Rachakonda, Sreenivas; Venkaiah Chowdary, Nannapaneni
- PA Natco Pharma Limited, India
- SO U.S. Pat. Appl. Publ., 80pp., Cont.-in-part of U.S. Ser. No. 714,565. CODEN: USXXCO
- DT Patent
- LA English

FAN.CNT 4

	PAT	ENT I	KIND		DATE		APPLICATION NO.						DATE						
PI	IN	20080306100 2004CH00908 2006027795				А		20081211 20061103 20060316		US 2008-42235 IN 2004-CH908 WO 2005-IN243						20040909			
		₩:	CN, GE, LC, NG, SL,	CO, GH, LK, NI,	CR, GM, LR, NO, SY,	CU, HR, LS, NZ,	CZ, HU, LT, OM,	ID, LU, PG,	DK, IL, LV, PH,	DM, IN, MA, PL,	DZ, IS, MD, PT,	EC, JP, MG, RO,	EE, KE, MK, RU,	EG, KG, MN, SC,	ES, KM, MW, SD,	FI, KP, MX, SE,	CA, GB, KR, MZ, SG, VN,	GD, KZ, NA, SK,	
		R₩:	AT, IS, CF, GM,	BE, IT, CG, KE,	BG, LT, CI, LS,	LU, CM,	LV, GA, MZ,	MC, GN, NA,	NL, GQ,	PL, GW,	PT, ML,	RO, MR,	SE, NE,	SI, SN,	SK, TD,	TR, TG,	HU, BF, BW, AZ,	BJ, GH,	
PRAI	IN	20070232633 2004-CH908 2005-IN243 2007-714565			A A2		20050719							20070305					

MARPAT 150:35385 OS AΒ The present invention relates to novel intermediates useful for the preparation of novel phenylaminopyrimidine derivs., novel phenylaminopyrimidine derivs., pharmaceutical composition containing the novel phenylaminopyrimidine derivs. and processes for their preparation The invention particularly relates to novel Ph pyrimidine amine derivs. of the general formula I (wherein X is CH or N; n=1 or 2; R is H or CH3; and Y is absent, S, SO, or SO2). The novel compds. of the invention can be used in the therapy of chronic myeloid leukemia (CML). Since the IC50 values of these mols. are in the range 0.1 to 10.0 nm, these novel compds. are potentially useful for the treatment of CML. The present invention also relates to a particular crystal form of the (3,5-bis trifluoromethyl)-N-[4-methyl-3-(4-pyridin-3yl-pyrimidin-2ylamino)-phenyl]-benzamide (II) , processes for the preparation thereof, pharmaceutical compns. containing this crystal form, and their use as antitumor agent in humans. II is also known as AN-019. This invention relates to a process for the preparation of (3-trifluoromethylsulfonyl)-N-[4-methyl-3-(4-pyridin-3-yl-pyrimidin-2ylamino)-phenyl]-benzamide (III) starting from 4-methyl-2-nitro-aniline

2ylamino)-phenyl]-benzamide (III) starting from 4-methyl-2-nitro-aniline through intermediates (3-trifluoromethylsulfonyl)-N-[4-methyl-3-nitrophenyl]-benzamide, (3-trifluoromethylsulfonyl)-N-[3-amino-4-methylphenyl]-benzamide and (3-trifluoromethylsulfonyl)-N-[3-guanidino-4-methylphenyl]-benzamide. This invention also relates to processes for the preparation of these intermediates. III is also known as AN-024.

IT 879507-25-2P 951306-10-8P,
 3-(Trifluoromethylsulfonyl)-N-[4-methyl-3-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide
 RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of phenylaminopyrimidine derivs. as inhibitors of BCR-ABL kinase for treating cancer)

RN 879507-25-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis(trifluoromethyl)- (CA INDEX NAME)

RN 951306-10-8 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3[(trifluoromethyl)sulfonyl]- (CA INDEX NAME)

IT 879507-24-1P, 3-Trifluoromethyl-N-[4-methyl-3-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide 879507-26-3P, 2-Trifluoromethyl-N-[4-methyl-3-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide 951306-05-1P, 3-(Trifluoromethylthio)-N-[4-methyl-3-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of phenylaminopyrimidine derivs. as inhibitors of BCR-ABL kinase for treating cancer)

RN 879507-24-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 879507-26-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-2- (trifluoromethyl)- (CA INDEX NAME)

RN 951306-05-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-[(trifluoromethyl)thio]- (CA INDEX NAME)

```
L11 ANSWER 2 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
    2008:1458667 CAPLUS
ΑN
DN
    150:20140
    Heterocyclic compounds as PDGFR inhibitors and their preparation,
ΤI
    pharmaceutical compositions and use in the treatment of diseases
ΙN
    Singh, Juswinder; Ghosh, Shomir; Kluge, Arthur F.; Petter, Russell C.
PA
    Avila Therapeutics, Inc., USA
    U.S. Pat. Appl. Publ., 90pp.
SO
    CODEN: USXXCO
DT
    Patent
LA
    English
FAN.CNT 1
                               DATE
                        KIND
                                          APPLICATION NO.
    PATENT NO.
                                                                 DATE
                                          _____
    US 20080300268
                               20081204
                                          US 2008-132537
                                                                 20080603
PΙ
                         Α1
                               20081211,
                                          WO 2008-US65646
    WO 2008151183
                        A1
                                                                 20080603
        W: AE, AG, AL, AM, AO, AT, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
            CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
            FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
        TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
            TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
            AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRAI US 2007-941873P
                        Р
                               20070604
    US 2007-972048P
                         Ρ
                               20070913
    MARPAT 150:20140
OS
    The invention provides compds. of formula I, pharmaceutically acceptable
AB
    compns. thereof, and methods of using the same. Compds. of formula I
    wherein T is NHCO and CONH; W is CH and N; each Ra, Rb, Rc and Rd are
    independently OH, H, lower (halo)alkyl, lower alkoxy, and halo; R1 is a
    warhead group; R2 is H, lower (halo)alkyl, halo, NHCO2H and derivs., etc.;
    R1R2 taken together to form (un)substituted (un)saturated 5- to 7-membered
     (hetero)aryl; R3 is H, lower alkyl and halo; are claimed. Example compound
    II was prepared by a general procedure (procedure given). All the invention
    compds. were evaluated for their PDGFR inhibitory activity. From the
    assay, it was determined that compound II exhibited IC50 value of 172.29 nM.
ΤТ
    1089724-88-8P 1089724-90-2P 1089724-94-6P
    1089725-11-0P 1089725-13-2P 1089725-14-3P
    1089725-15-4P 1089725-21-2P 1089725-39-2P
    1089725-41-6P 1089725-42-7P 1089725-43-8P
    RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
     (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
     (Uses)
        (preparation of heterocyclic compds. as inhibitors of protein kinase useful
        in treatment of kinase-mediated disorders)
RN
    1089724-88-8 CAPLUS
    Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-
CN
     [(1-oxo-2-propen-1-yl)amino]- (CA INDEX NAME)
```

$$\begin{array}{c|c} O & \\ O & \\ C - NH \\ \end{array}$$

RN 1089724-90-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-[[(1-oxo-2-propen-1-yl)amino]methyl]- (CA INDEX NAME)

RN 1089724-94-6 CAPLUS

CN Benzamide, 4-[(ethenylsulfonyl)amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} O & \\ O & \\ C - NH & \\ NH &$$

RN 1089725-11-0 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-[(1-oxo-2-propen-1-yl)amino]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 1089725-13-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-[(1-oxo-2-buten-1-yl)amino]- (CA INDEX NAME)

RN 1089725-14-3 CAPLUS

CN Benzamide, 4-[[4-(dimethylamino)-1-oxo-2-buten-1-yl]amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1089725-15-4 CAPLUS

CN Benzamide, 4-[(4-methoxy-1-oxo-2-buten-1-yl)amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1089725-21-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4[(1-propen-1-ylsulfonyl)amino]- (CA INDEX NAME)

RN 1089725-39-2 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-[(1-oxo-2-propen-1-yl)amino]- (CA INDEX NAME)

RN 1089725-41-6 CAPLUS

CN Benzamide, 4-[(2-chloroacetyl)amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} \mathsf{O} & \\ \mathsf{O} & \\ \mathsf{C} - \mathsf{NH} & \\ \mathsf{$$

RN 1089725-42-7 CAPLUS

CN Benzamide, 4-[(2-chloro-1-oxopropyl)amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1089725-43-8 CAPLUS

CN Benzamide, 4-[[4-(dimethylamino)-1-oxo-2-buten-1-yl]amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

IT 1089725-62-1P

RL: PRPH (Prophetic); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclic compds. as inhibitors of protein kinase useful in treatment of kinase-mediated disorders)

RN 1089725-62-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-

[(2-propen-1-ylsulfonyl)amino]- (CA INDEX NAME)

$$\begin{array}{c|c} O & O \\ \hline C - NH & NH \\ \hline NH & NH \\ NH \\ \hline NH & NH \\ \hline NH$$

IT 1089725-55-2P 1089725-56-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclic compds. as inhibitors of protein kinase useful in treatment of kinase-mediated disorders)

RN 1089725-55-2 CAPLUS

CN Carbamic acid, N-[4-[[[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]amino]carbonyl]phenyl]-, 1,1-dimethylethyl ester (CA INDEX NAME)

RN 1089725-56-3 CAPLUS

CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, hydrochloride (1:1) (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C - NH \\ \hline Me \end{array}$$

● HCl

```
L11 ANSWER 3 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2008:1359695 CAPLUS
ΑN
DN
     149:556641
     Preparation of substituted pyridylpyrimidinamines as c-Kit and PDGFR
ΤI
     kinases inhibitors
IN
     Li, Xiaolin; Liu, Xiaodong; Molteni, Valentina; Chianelli, Donatella;
     Loren, Jon; Nabakka, Juliet; Ramsey, Timothy; Breitenstein, Werner
     IRM LLC, Bermuda; Novartis A.-G.
PA
     PCT Int. Appl., 60pp.
SO
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 1
                                DATE.
                         KIND
                                            APPLICATION NO.
     PATENT NO.
                                                                    DATE
                                            _____
                                                                   _____
                         ____
     WO 2008137794
                                20081113
                                            WO 2008-US62568
                         A1 (
                                                                   20080502
РΤ
        W: AE, AG, AL, AM, AQ, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
         TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
             TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRAI US 2007-916051P
                          Ρ
                                20070504
    MARPAT 149:556641
OS
     The invention provides a novel class of compds. I [L = NC(0), NC(0)N],
AΒ
     C(0)N; R1, R21, R22 = H, OH, heterocycloalkyl, etc.; R3-R7 = H, halo, CN,
     etc.; with the proviso that at least one of R3-R7 has a sulfur directly
     linked to the Ph ring], pharmaceutical compns. comprising such compds. and
     methods of using such compds. to treat or prevent diseases or disorders
     associated with abnormal or deregulated kinase activity, particularly
     diseases or disorders that involve abnormal activation of c-Kit,
     PDGFR\alpha and PDGFR\beta kinases. Over twenty compds. I were prepared
     E.g., a multi-step synthesis of II, starting from 2-amino-4-nitrotoluene
     and cyanamide, was given. Exemplified compds. I were tested in various
     biol. assays. For example, compds. I showed am IC50 in the range of 10 nM
     to 2 \mu\text{M} when tested in FGFR3 enzymic assay.
     1079880-30-0P
IΤ
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (preparation of novel pyridylpyrimidinamines as c-Kit and PDGFR kinases
        inhibitors for treating and preventing kinase-mediated diseases)
RN
     1079880-30-0 CAPLUS
     Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-
CN
```

pyrimidinyl]amino]phenyl]-3-(methylsulfonyl)- (CA INDEX NAME)

IT 1079880-28-6P 1079880-29-7P 1079880-31-1P 1079880-34-4P 1079880-37-7P 1079880-38-8P 1079880-39-9P 1079880-41-3P 1079880-42-4P 1079880-44-6P 1079880-48-0P 1079880-49-1P 1079880-50-4P 1079880-53-7P 1079880-55-9P 1079880-58-2P 1079880-59-3P 1079880-61-7P 1079880-62-8P 1079880-63-9P 1079880-66-2P 1079880-69-5P 1079880-71-9P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel pyridylpyrimidinamines as C-Kit and PDGFR kina

(preparation of novel pyridylpyrimidinamines as c-Kit and PDGFR kinases inhibitors for treating and preventing kinase-mediated diseases)

RN 1079880-28-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-29-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-31-1 CAPLUS

CN Benzamide, 2-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-34-4 CAPLUS

CN Benzamide, 3-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-37-7 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-38-8 CAPLUS

CN Benzamide, 4-ethoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-39-9 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[5-(1-pyrrolidinyl)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-41-3 CAPLUS

CN Benzamide, N-[3-[[4-(5-methoxy-3-pyridiny1)-2-pyrimidiny1]amino]-4-methylpheny1]-4-(methylsulfony1)- (CA INDEX NAME)

RN 1079880-42-4 CAPLUS

CN Benzamide, N-[3-[[4-[5-(2-fluoroethoxy)-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-44-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(5-methyl-3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-48-0 CAPLUS

CN Benzamide, 3-(2-fluoroethoxy)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-49-1 CAPLUS

CN Benzamide, N-[3-[[4-(4-isoquinoliny1)-2-pyrimidiny1]amino]-4-methylphenyl]-3-(methylsulfony1)- (CA INDEX NAME)

RN 1079880-50-4 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-53-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[5-(4-morpholinyl)-3-pyridinyl]-2-

pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-55-9 CAPLUS

CN Benzamide, N-[3-[[4-[5-(cyclopropylmethoxy)-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-58-2 CAPLUS

CN Benzamide, N-[3-[[4-[5-(difluoromethoxy)-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylpheny1]-4-(methylsulfony1)- (CA INDEX NAME)

RN 1079880-59-3 CAPLUS

CN Benzamide, N-[3-[[4-(5-hydroxy-3-pyridiny1)-2-pyrimidiny1]amino]-4-methylpheny1]-4-(methylsulfony1)- (CA INDEX NAME)

RN 1079880-61-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)-3-propoxy- (CA INDEX NAME)

RN 1079880-62-8 CAPLUS

CN Benzamide, 3-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-63-9 CAPLUS

CN Benzamide, 3-butoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-66-2 CAPLUS

CN Benzamide, 3-(2-methylpropoxy)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RN 1079880-69-5 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)-3-(2,2,2-trifluoroethoxy)- (CA INDEX NAME)

RN 1079880-71-9 CAPLUS

CN Benzamide, 3-[2,3-difluoro-2-(fluoromethyl)propoxy]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

IT 1079881-00-7P

RL: PRPH (Prophetic); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of novel pyridylpyrimidinamines as c-Kit and PDGFR kinases inhibitors for treating and preventing kinase-mediated diseases)

RN 1079881-00-7 CAPLUS

CN Benzamide, 4-bromo-3-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

IT 1079880-97-9P 1079880-99-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of novel pyridylpyrimidinamines as c-Kit and PDGFR kinases inhibitors for treating and preventing kinase-mediated diseases)

RN 1079880-97-9 CAPLUS

CN Benzamide, 3-hydroxy-4-iodo-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1079880-99-1 CAPLUS

CN Benzamide, 3-hydroxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(methylsulfonyl)- (CA INDEX NAME)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 4 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2008:1220255 CAPLUS
ΑN
DN
     149:417705
     Intermediates and a process employing the intermediates for the
ΤI
     preparation of (3-trifluoromethylsulfonyl)-n-[4-methyl-3-(4-pyridin-3yl-
     pyrimidin-2ylamino)-phenyl]-benzamide
ΙN
     Kompella, Amala Kishan; Adibhatla Kali Satya, Bhujanga Rao; Rachakonda,
     Sreenivas; Venkaiah Chowdary, Nannapaneni
     Natco Pharma Limited, India
PA
     U.S. Pat. Appl. Publ., 27pp., Cont.-in-part of U.S. Ser. No. 714,565.
SO
     CODEN: USXXCO
DT
     Patent
     English
LA
FAN.CNT 4
                                   DATE
                           KIND
                                                APPLICATION NO.
     PATENT NO.
                                                                         DATE
     US 20080249121
                                   20081009
                                               US 2008-42240
                                                                         20080304
PΤ
                            Α1
     IN 2004CH00908
                                   20061103
                                                IN 2004-CH908
                                                                         20040909
                            Α
     WO 2006027795
                            Α1
                                   20060316
                                                WO 2005-IN243
                                                                         20050719
         W: AE, AG, AL, AM, AT, AU, AZ,
                                            ÆÅ, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
              NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
              ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
              CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM
                                                US 2007-714565
     US 20070232633
                            Α1
                                   20071004
                                                                         20070305
PRAI IN 2004-CH908
                            Α
                                   20040909
     WO 2005-IN243
                            Α2
                                   20050719
     US 2007-714565
                            Α2
                                   20070305
AΒ
     This invention relates to a process for the preparation of
     (3-trifluoromethylsulfonyl)-N-[4-methyl-3-(4-pyridin-3yl-pyrimidin-
     2ylamino)-phenyl]-benzamide (formula (I)) starting from
     4-methyl-2-nitro-aniline (formula (II)) through intermediates
     (3-trifluoromethylsulfonyl)-N-[4-methyl-3-nitrophenyl]-benzamide (formula )
     (III)), (3-trifluoromethylsulfonyl)-N-[3-amino-4-methylphenyl]-benzamide
     (formula (IV)) and (3-trifluoromethylsulfonyl)-N-[3-quanidino-4-
     methylphenyl]-benzamide (formula (V)). This invention also relates to
     processes for the preparation of these intermediates.
     951306-10-8P, (3-Trifluoromethylsulfonyl)-N-[4-methyl-3-(4-pyridin-
ΙT
     3yl-pyrimidin-2ylamino)-phenyl]-benzamide
     RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic
     preparation); BIOL (Biological study); PREP (Preparation)
         (intermediates and a process employing the intermediates for the preparation
         of (3-trifluoromethylsulfonyl)-n-[4-methyl-3-(4-pyridin-3yl-pyrimidin-
         2ylamino) -phenyl] -benzamide)
     951306-10-8 CAPLUS
RN
     Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-
CN
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[(trifluoromethyl)sulfonyl]- (CA INDEX NAME)

$$F_3C - S \\ 0 \\ C - NH \\ NH \\ NMe$$

L11 ANSWER 5 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

ΑN 2008:1022138 CAPLUS

149:355912 DN

Preparation of N-(5-amino-2-methylphenyl)-4-(3-pyridinyl)-2-ΤI pyrimidinylamine derivs. as antitumor agents

ΙN Dong, Weibing; Zhou, Wei; Zhang, Guangming

PATianjin Tasly Group Co., Ltd., Peop. Rep. China

SO Faming Zhuanli Shenging Gongkai Shuomingshu, 14pp. CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

PI

DATE PATENT NO. KIND APPLICATION NO. DATE 20080820 CN 2008-10000117 20080103 CN 101245061 Α 20070213 Α

PRAI CN 2007-10056796

CASREACT 149:355912 OS

AΒ Title compds. [I; wherein R = substituted NH2], and their pharmaceutically acceptable salts, were prepared I exhibit ability of restraining cell apoptosis or inducing tumor cell apoptosis by dual-cooperation antineoplastic mechanism. Thus, the invention compound II was prepared and gave a HL-60 inhibition IC50 value of  $8.34 \, \mu g/mL$ .

ΙT 1056197-93-3P 1056197-94-4P 1056197-95-5P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

> (preparation of N-(5-amino-2-methylphenyl)-4-(3-pyridinyl)-2pyrimidinylamine derivs. as antitumor agents)

RN 1056197-93-3 CAPLUS

Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-CN [[2-(nitrooxy)ethoxy]methyl]- (CA INDEX NAME)

RN 1056197-94-4 CAPLUS

Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-CN [[[6-(nitrooxy)hexyl]oxy]methyl]- (CA INDEX NAME)

RN 1056197-95-5 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-[[2-(nitrooxy)propoxy]methyl]- (CA INDEX NAME)

IT 404844-11-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of N-(5-amino-2-methylphenyl)-4-(3-pyridinyl)-2-pyrimidinylamine derivs. as antitumor agents)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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L11 ANSWER 6 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
            2008:872866 CAPLUS
ΑN
DN
            149:176363
            Processes for preparation of 2-anilinopyrimidines or their salts by
ΤI
            multistep syntheses starting from cyclocondensation reaction of
            N, N-dialkylamino-1-(3-pyridyl)-2-propene-1-ones and urea
IN
            Kopyrin, Yu. I.
PA
            Russia
            Russ., 13pp.
SO
            CODEN: RUXXE7
DT
            Patent
LΑ
            Russian
FAN.CNT 1
                                                                                  DATE
                                                                                                                 APPLICATION NO.
            PATENT NO.
                                                               KIND
                                                                                                                                                                            DATE
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            RU 2329260
                                                                  C1
                                                                                  20080720
                                                                                                                 RU 2007-106105
                                                                                                                                                                            20070220
PΙ
            WO 2008103068
                                                                  A2
                                                                                                                 WO 2008-RU37
                                                                                                                                                                            20080125
                                                                                  20080828
            WO 2008103068
                                                                 АЗ
                                                                                  20081016
                      PL, PT, RO, RS, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
                                 IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
                                 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
                                 AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
                                                                                  20070220
PRAI RU 2007-106105
                                                                Α
            CASREACT 149:176363; MARPAT 149:176363
OS
            Derivs. of N-phenyl-2-pyrimidinamine (2-anilinopyrimidine) [I; R1 =
AΒ
            pyridyl or its oxide bonded to a C atom, optionally substituted with lower
            alkyl or alkoxy; R2, R3 = H, (un)branched lower alkyl, Ph (un)substituted
            with halogen; R4 = H, (un)branched lower alkyl; R5 = H, lower alkyl,
             (un) substituted with halogen; R6, R8 = H, lower alkoxy, (un) branched lower
            alkyl; R7 = lower alkyl, lower alkoxy, nitro, carboxy, amino, amido,
            etc.], which have a wide spectrum of biol. effects and can be used for
            treating various types of tumors, leukemia, cerebral ischemia, vascular
            stenosis and other diseases (no data), are prepared by a multistep synthesis
            involving the following stages: (A) reaction of urea in a basic medium
            with a N,N-dialkylamino-1-(3-pyridyl)-2-propene-1-one R1COC(R2):C(R3)NMe2
             (same R1-R3) to give the corresponding dihydropyrimidinone (II); (B)
            oxidation of II to give the corresponding hydroxypyrimidine (III; X = H); (C)
            activation of the hydroxy group in this compound by, for example, treatment
            with sulfohalide R'SO2Hal or anhydride R'(SO2)20 (R' = lower alkyl or
            aryl, e.g., p-tolyl), to give III (X = OSO2R'); (D) reaction of the latter
            compound with an aromatic amino compound (IV; R = H; same R4-R8) to give I and
            subsequent possible conversion of the obtained compds. to other derivs. of
            I. Thus, this synthetic strategy beginning with
            N, N-dimethylamino-1-(3-pyridyl)-2-propene-1-one and urea afforded
            4-[(4-methylpiperazin-1-yl)methyl]-N-[4-methyl-3-[[(4-pyridin-3-in-1-yl)methyl]]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl]-N-[4-methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl-3-[in-1-yl]methyl
            yl)pyrimidin-2-yl]amino]phenyl]benzamide (V).
ΙT
            404844-11-7
            RL: RCT (Reactant); RACT (Reactant or reagent)
                     (process for preparation of 2-anilinopyrimidines and their salts by
```

multistep syntheses starting from cyclization of
 N,N-dialkylamino-1-(3-pyridyl)-2-propene-1-ones with urea)
RN 404844-11-7 CAPLUS
CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2

Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

```
L11 ANSWER 7 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2008:615205 CAPLUS
ΑN
     148:561933
DN
     Process for the preparation of imatinib and related compounds via
TΙ
     condensation of 3-oxo-3-(3-pyridyl)propanal with arylquanidines followed
     by base cyclization.
IN
     Falchi, Alessandro; Grendele, Ennio; Motterle, Riccardo; Stivanello,
     F.I.S. Fabbrica Italiana Sintetici S.p.A., Italy
PA
SO
     PCT Int. Appl., 65pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 1
                            KIND
                                     DATE
                                                  APPLICATION NO.
     PATENT NO.
                                                                             DATE
     WO 2008059551
                             A2
                                     20080522
                                                  WO 2007-IT804
                                                                             20071115
РΤ
     WO 2008059551
                             A3
                                     20081231
          W: AE, AG, AL, AM, AT, AV, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
               CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI,
              GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
          PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
               IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF,
              BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
               BY, KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA
                                                                             20061116
     IT 2006MI2208
                                    20070216 IT 2006-MI2208
                             Α1
                             Α1
                                                  IT 2007-MI942
     IT 2007MI0942
                                     20070809
                                                                             20070509
PRAI IT 2006-MI2208
                             Α
                                     20061116
     IT 2007-MI942
                             Α
                                     20070509
OS
     CASREACT 148:561933; MARPAT 148:561933
     Title compds. [I; R1 = amino, NO2, halo, OH, NHCOR3, NHR4; R3 =
AΒ
      4-halomethylphenyl, 4-hydroxymethylphenyl,
     4-[(4-methylpiperazinyl)carbonyl]phenyl, 4-alkoxycarbonylphenyl,
     4-[(4-methyl-1-piperazinyl)methyl]phenyl; R4 = protecting group], were
     prepared by reaction of 3-oxo-3-(3-pyridyl)propanal or salts or enol ethers
     thereof with the corresponding arylguanidines to give intermediates (II;
     R1 as above) followed by cyclization in the presence of base. Thus,
     3-oxo-3-(3-pyridyl)propanal Na salt, (2-methyl-5-aminophenyl)guanidine,
     and HOAc were stirred together for 1 h in BuOH; KOH was added and the
     mixture was refluxed 18 h to give I (R1 = amino) of 99.2% purity.
     404844-11-7P 1026746-77-9P
IT
     RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP
      (Preparation)
         (preparation of imatinib and related compds. via condensation of
         pyridyloxopropanal with arylquanidines followed by base cyclization)
RN
     404844-11-7 CAPLUS
     Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-
CN
     pyrimidinyl]amino]phenyl]- (CA INDEX NAME)
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RN 1026746-77-9 CAPLUS

CN Benzamide, 4-(hydroxymethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

L11 ANSWER 8 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2008:592487 CAPLUS

DN 149:95035

TI Combi-targeting concept: an optimized single-molecule dual-targeting model for the treatment of chronic myelogenous leukemia

AU Katsoulas, Athanasia; Rachid, Zakaria; McNamee, James P.; Williams, Christopher; Jean-Claude, Bertrand J.

CS Cancer Drug Research Laboratory, Department of Medicine, Division of Medical Oncology, McGill University Health Center/Royal Victoria Hospital, Montreal, QC, H3A 1A1, Can.

SO Molecular Cancer Therapeutics (2008), 7(5), 1033-1043 CODEN: MCTOCF; ISSN: 1535-7153

PB American Association for Cancer Research

DT Journal

LA English

Blockade of Bcr-Abl by the inhibitor Imatinib has proven efficacious in AΒ the therapy of chronic myelogenous leukemia (CML). However resistance to the drug emerges at the advanced phases of the disease. Therefore, novel therapy models remained to be designed. We have developed a novel dual targeted agent termed "combi-mol." designed to not only block Bcr-Abl but also damage DNA. ZRF1, the first optimized prototype of the approach, was "programmed" to degrade into another inhibitor ZRF0 plus a Me diazonium species. It was .apprx.2-fold stronger Abl tyrosine kinase inhibitor than Imatinib and a more potent DNA-damaging agent than Temodal. In the p53 wild-type Mo7p210 cells, the potency of ZRF1 was .apprx.1,000-fold superior to that of the equieffective combinations of Imatinib plus Temodal. More importantly, its superior potency over Imatinib was more pronounced in Bcr-Abl-pos. cells coexpressing wild-type p53. Studies to rationalize these results showed that, through its Bcr-Abl inhibitory function, it down-regulated p53. However, sufficient level of the latter protein was available for transactivating p21 and Bax, which are required for cell cycle arrest and apoptosis. The results suggest that, in p53 wild-type cells, apoptosis is induced not only through Bcr-Abl inhibition but also through the p53-controlled DNA-damaging pathway, leading to an additive effect that translates into enhanced cell death. The study conclusively showed that p53 is a major determinant for the cytotoxic advantages of the novel combi-mol. approach in CML, a disease in which 70% to 85% of all the cases express wild-type p53.

IT 945028-59-1 945028-65-9

RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); PKT (Pharmacokinetics); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(combi-targeting concept and an optimized single-mol. dual-targeting model for treatment of chronic myelogenous leukemia)

RN 945028-59-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(3-methyl-2-triazen-1-yl)-3-(trifluoromethyl)- (CA INDEX NAME)

RN 945028-65-9 CAPLUS

CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

$$\begin{array}{c|c} & \circ & \\ \hline & C-NH & NH & N\\ \hline & N & N & N\\ \hline & CF_3 & \\ \end{array}$$

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

L11 ANSWER 9 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

ΑN 2008:466589 CAPLUS

148:538211 DN

A Facile Total Synthesis of Imatinib Base and Its Analogues ΤI

ΑU Liu, Yi-Feng; Wang, Cui-Ling; Bai, Ya-Jun; Han, Ning; Jiao, Jun-Ping; Qi,

Applied Chemical Institute, Northwest University, Xi'an, 710069, Peop. CS Rep. China

(2008),SO Organic Process Research & Development

CODEN: OPRDFK; ISSN: 1083-6160

PΒ American Chemical Society

DTJournal

LA English

RN

OS CASREACT 148:538211

AΒ Imatinib (I) and its analogs were successfully synthesized by an improved method in 19.5-46.2% total yield of six main steps. 2-Pyrimidinamines were prepared by heterocyclization of (dimethylamino)propenone enaminones with guanidine nitrate without the use of a toxic cyanamide. N-(2-Methyl-5-nitrophenyl) pyrimidinamine key intermediates were prepared by Cu-catalyzed arylation of 2-pyrimidinamines with 2-bromo-4-nitrotoluene. CuI was used instead of expensive Pd compds. in this C-N bond-forming reaction. Intermediate (pyrimidinylamino)nitrobenzenes were reduced by a  $N2H4 \cdot H2O/FeCl3$  system using water as a solvent in good yields.

404844-11-7P 726192-77-4P 881677-39-0P ΙT 1024585-66-7P 1024585-67-8P 1024585-68-9P

> RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(heteroamination of [[(het)arylpyrimidinyl]amino]toluidine (chloromethyl) benzamides in the preparation of Imatinib and its analogs) 404844-11-7 CAPLUS

Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-CN pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 726192-77-4 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[(4-phenyl-2pyrimidinyl)amino]phenyl]- (CA INDEX NAME)

RN 881677-39-0 CAPLUS

Benzamide, 4-(chloromethy1)-N-[4-methy1-3-[4-(2-pyridiny1)-2-CN

pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1024585-66-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 1024585-67-8 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-[[4-(2-furanyl)-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 1024585-68-9 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(2-thienyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 10 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
ΑN
     2007:1425431 CAPLUS
DN
     148:45779
     Method of treating inflammatory diseases using tyrosine kinase inhibitors
ΤI
IN
     Robinson, William H.; Paniagua, Ricardo T.
PA
     The Board of Trustees of the Leland Stanford Junior University, USA
SO
     PCT Int. Appl., 84pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 1
                                    DATE
     PATENT NO.
                           KIND
                                                 APPLICATION NO.
                                                 _____
                                               ) WO 2007-US13033
                                    20071213
     WO 2007143146
                            A2 🔪
                                                                          20070531
РΤ
         W: AE, AG, AL, AM, AT, AU, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
              CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI,
              GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG,
              KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
              MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, RV, KG, KZ, MD, PU, TI, TM
              BY, KG, KZ, MD, RU, TJ, TM
                                                 US 2007-809515
     US 20080032989
                         A1 20080207
                           P
PRAI US 2006-810030P
                                   20060531
     Methods for treating and preventing inflammatory diseases using tyrosine
     kinase inhibitors are described. The inhibitors inhibit, e.g., T
     lymphocyte and/or B lymphocyte function, fibroblast proliferation, mast
     cells activation, and/or monocyte differentiation.
ΙT
     152459-94-4, CGP53716
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
         (treating inflammatory diseases using tyrosine kinase inhibitors)
RN
     152459-94-4 CAPLUS
     Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-
CN
     (CA INDEX NAME)
```

- L11 ANSWER 11 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2007:1290472 CAPLUS
- DN 148:440631
- TI The Synergistic Action of a VEGF-Receptor Tyrosine-Kinase Inhibitor and a Sensitizing PDGF-Receptor Blocker Depends upon the Stage of Vascular Maturation
- AU Hlushchuk, Ruslan; Baum, Oliver; Gruber, Guenther; Wood, Jeanette; Djonov, Valentin
- CS Institute of Anatomy, University of Bern, Bern, Switz
- SO Microcirculation (New York, NY, United States) (2007), 14(8), 813-825 CODEN: MROCER; ISSN: 1073-9688
- PB Informa Healthcare
- DT Journal
- LA English
- Objective: To investigate the effects of tyrosine-kinase inhibitors of AΒ vascular endothelial growth factor (VEGF) and platelet-derived growth factor (PDGF)-receptors on non-malignant tissue and whether they depend upon the stage of vascular maturation. Materials and methods: PTK787/ZK222584 and CGP53716 (VEGF- and PDGF-receptor inhibitor resp.), both alone and combined, were applied on chicken chorioallantoic membrane (CAM). Results: On embryonic day of CAM development (E)8, only immature microvessels, which lack coverage of pericytes, are present; whereas the microvessels on E12 have pericytic coverage. This development was reflected in the expression levels of pericytic markers ( $\alpha$  -smooth muscle actin, PDGF-receptor ss and desmin), which were found by immunoblotting to progressively increase between E8 and E12. Monotherapy with 2  $\mu$  g of PTK787/ZK222584 induced significant vasodegeneration on E8, but not on E12. Monotherapy with CGP53716 affected only pericytes. When CGP53716 was applied prior to treatment with 2  $\mu$  g of PTK787/ZK222584, vasodegeneration occurred also on E12. The combined treatment increased the apoptotic rate, as evidenced by the cDNA levels of caspase-9 and the TUNEL-assay. Conclusion: Anti-angiogenic treatment strategies for non-neoplastic disorders should aim to interfere with the maturation stage of the target vessels: monotherapy with VEGF-receptor inhibitor for immature vessels, and combined anti-angiogenic treatment for well developed mature vasculature.
- IT 152459-94-4, CGP53716
  - RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
    - (combined treatment with PDGF-receptor inhibitor CGP53716 and VEGF-receptor tyrosine-kinase inhibitor PTK787 synergistically induced vasodegeneration on mature compared to immature chicken chorioallantoic membrane)
- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 12 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2007:1118768 CAPLUS
ΑN
DN
     147:427361
     Preparation of (phenylamino)pyrimidine derivatives as inhibitors of
ΤI
     bcr-abl kinase for treatment of chronic myeloid leukemia
IN
     Kompella, Amala Kishan; Adibhatla Kali Satya, Bhujanga Rao; Rachakonda,
     Sreenivas; Podili, Khadqapathi; Venkaiah Chowdary, Nannapaneni
     Natco Pharma Limited, India
PA
     U.S. Pat. Appl. Publ., 29pp., Cont.-in-part of Appl. No.
SO
     PCT/IN2005/000243.
     CODEN: USXXCO
DT
     Patent
     English
LA
FAN.CNT 4
                         KIND
                                 DATE
                                             APPLICATION NO.
     PATENT NO.
                                                                     DATE
                         ____
     US 20070232633
                                 20071004
                                             US 2007-714565
                                                                     20070305
PΤ
                          Α1
     IN 2004CH00908
                                20061103
                                             IN 2004-CH908
                                                                     20040909
                          Α
                                            WO 2005-IN243
     WO 2006027795
                          Α1
                                20060316
                                                                     20050719
         NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
             ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     US 20080249121
                                20081009
                                             US 2008-42240
                                                                     20080304
                         A1
     US 20080306100
                          A1
                                20081211
                                             US 2008-42235
                                                                     20080304
PRAI IN 2004-CH908
                          Α
                                 20040909
     WO 2005-IN243
                          A2
                                20050719
     US 2007-714565
                          A2
                                 20070305
OS
     CASREACT 147:427361; MARPAT 147:427361
     The present invention relates to novel intermediates useful for the preparation
AΒ
     of novel phenylaminopyrimidine derivs. Pharmaceutical composition containing
the
     novel phenylaminopyrimidine derivs. and processes for their preparation are
     disclosed. The invention particularly relates to novel Ph pyrimidine
     amine derivs. of the general formula I (wherein X is CH or N; n = 1-2; R =
     H or Me; Y is absent, S, SO, or SO2). The novel compds. of the formula I
     can be used in the therapy of chronic myeloid leukemia (CML). Since the
     IC50 values of these mols. are in the range 0.1 to 10.0 nm, these novel
     compds. are potentially useful for the treatment of CML. Example compound
     II was prepared by reacting (3-trifluoromethyl)-N-(3-quanidino-4-
     methylphenyl)benzamide nitrate (preparation given) with
     3-dimethylamino-1-pyridin-3-ylpropenone.
     951306-13-1P
     RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic
     preparation); THU (Therapeutic use); BIOL (Biological study); PREP
     (Preparation); RACT (Reactant or reagent); USES (Uses)
        (drug candidate; preparation of (phenylamino)pyrimidine derivs. as
        inhibitors of bcr-abl kinase for treatment of chronic myeloid leukemia)
RN
     951306-13-1 CAPLUS
```

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3[(trifluoromethyl)sulfinyl]- (CA INDEX NAME)

IT 879507-24-1P 879507-25-2P 879507-26-3P

951306-05-1P, 3-(Trifluoromethylthio)-N-[4-methyl-3-[[4-(pyridin-3-

yl)pyrimidin-2-yl]amino]phenyl]benzamide 951306-10-8P,

3-(Trifluoromethylsulfonyl)-N-[4-methyl-3-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide 951306-14-2P 951306-15-3P 951306-16-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of (phenylamino)pyrimidine derivs. as inhibitors of bcr-abl kinase for treatment of chronic myeloid leukemia)

RN 879507-24-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 879507-25-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis(trifluoromethyl)- (CA INDEX NAME)

RN 879507-26-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-2-(trifluoromethyl)- (CA INDEX NAME)

RN 951306-05-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-[(trifluoromethyl)thio]- (CA INDEX NAME)

RN 951306-10-8 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-[(trifluoromethyl)sulfonyl]- (CA INDEX NAME)

RN 951306-14-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis[(trifluoromethyl)thio]- (CA INDEX NAME)

RN 951306-15-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis[(trifluoromethyl)sulfinyl]- (CA INDEX NAME)

RN 951306-16-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis[(trifluoromethyl)sulfonyl]- (CA INDEX NAME)

## 10/560,352

- L11 ANSWER 13 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2007:996289 CAPLUS
- DN 148:509389
- TI Structural investigation of PAP derivatives by CoMFA and CoMSIA reveals novel insight towards inhibition of Bcr-Abl oncoprotein
- AU San Juan, Amor A.
- CS Life Science Division, Korea Institute of Science and Technology, Cheongryang, Seoul, 130-650, S. Korea
- SO Journal of Molecular Graphics & Modelling (2007), 26(2), 482-493 CODEN: JMGMFI; ISSN: 1093-3263
- PB Elsevier B.V.
- DT Journal
- LA English
- AΒ Mol. modeling by 3D-QSAR comparative mol. field anal. (CoMFA) and comparative mol. similarity indexes anal. (CoMSIA) were employed on a series of phenylaminopyrimidine-based (PAP) Bcr-Abl inhibitors. The chemical structures of 63 PAP analogs were aligned using a template extracted from the crystal structure of STI571 bound to Abl kinase. Subsequently, the structures built were divided into training and test sets that include 53 and 10 compds., resp. Statistical results showed that the 3D-QSAR models generated from CoMSIA were superior to CoMFA (CoMSIA; q2 = 0.66, r2 = 0.94, N = 3, F = 139.09, r2pred = 0.64 while CoMFA; q2 = 0.53, r2 = 0.73, N = 3, F = 43.53, r2pred = 0.61). Based on the contour interpretation, the attachment of hydrophobic and bulky groups to the Ph and pyrrolidine (D- and E-ring of NS-187, resp.) along with highly electroneg. groups around the D-ring are important structural features for the design of second-generation Bcr-Abl inhibitors. The generated models are predictive based on reproducible values of the predicted compared with exptl. activities in the test set. Further, the complementary anal. of contour maps to the Bcr-Abl binding site suggested the anchor points for binding affinity.
- IT 152459-94-4 152459-96-6 152459-98-8 152459-99-9 623901-01-9 623901-03-1 623901-04-2 623901-05-3

RL: PAC (Pharmacological activity); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(structural investigation of phenylaminopyrimidine-based derivs. by CoMFA and CoMSIA reveals novel insight towards inhibition of Bcr-Abl oncoprotein)

- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- RN 152459-98-8 CAPLUS
- CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- RN 152459-99-9 CAPLUS
- CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- RN 623901-01-9 CAPLUS
- CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C - NH \\ \hline \end{array}$$

- RN 623901-03-1 CAPLUS
- CN Benzamide, 4-(3,3-dimethyl-1-triazen-1-yl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 623901-04-2 CAPLUS

CN Benzamide, 4-[3-(hydroxymethyl)-3-methyl-1-triazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 623901-05-3 CAPLUS

CN Benzamide, 4-[3-(2-chloroethyl)-3-methyl-1-triazen-1-yl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & & \\ & & & \\ \text{Me} & & & \\ & & & \\ \text{C1CH}_2-\text{CH}_2-\text{N-N-N} & \\ \end{array}$$

RE.CNT 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

- L11 ANSWER 14 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2007:746469 CAPLUS
- DN 147:202995
- TI Optimization of novel combi-molecules: Identification of balanced and mixed bcr-abl/DNA targeting properties
- AU Rachid, Zakaria; Katsoulas, Athanasia; Williams, Christopher; Larroque, Anne-Laure; McNamee, James; Jean-Claude, Bertrand J.
- CS Chemical Computing Group Inc., Montreal, QC, H3A 2R7, Can.
- SO Bioorganic & Medicinal Chemistry Letters (2007), 17(15), 4248-4253 CODEN: BMCLE8; ISSN: 0960-894X
- PB Elsevier Ltd.
- DT Journal
- LA English
- OS CASREACT 147:202995
- AB Steps toward the identification of combi-mols. with strong abl tyrosine kinase (TK) inhibitory property and significant DNA damaging potential are described. The optimized combi-mol. (I) was shown to induce approx. twofold stronger abl TK inhibitory activity than Gleevec and high levels of DNA damage in chronic myelogenous leukemic cells.
- IT 623901-01-9P 945028-65-9P
  RL: PAC (Pharmacological activity); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (bcr-abl/DNA targeting compds.)
- RN 623901-01-9 CAPLUS
- CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- RN 945028-65-9 CAPLUS
- CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

- IT 945028-55-7P 945028-58-0P 945028-59-1P
  - RL: PAC (Pharmacological activity); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
    - (bcr-abl/DNA targeting compds.)
- RN 945028-55-7 CAPLUS

CN Benzamide, 4-[bis(2-chloroethyl)amino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} \text{C1CH}_2\text{-CH}_2\text{-N} \\ \text{C1CH}_2\text{-CH}_2\end{array}$$

RN 945028-58-0 CAPLUS

CN Benzamide, 4-[[bis(2-chloroethyl)amino]methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 945028-59-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(3-methyl-2-triazen-1-yl)-3-(trifluoromethyl)- (CA INDEX NAME)

IT 623901-04-2P 945028-57-9P 945028-60-4P

945028-61-5P 945028-62-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(bcr-abl/DNA targeting compds.)

RN 623901-04-2 CAPLUS

CN Benzamide, 4-[3-(hydroxymethyl)-3-methyl-1-triazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 945028-57-9 CAPLUS

CN Benzamide, 4-[[(2-chloroethyl)methylamino]methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 945028-60-4 CAPLUS

CN Benzamide, 4-[2-(dimethylamino)diazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 945028-61-5 CAPLUS

CN Benzamide, 4-[2-[(hydroxymethyl)methylamino]diazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 945028-62-6 CAPLUS

CN Benzamide, 3-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(3-methyl-2-triazen-1-yl)- (CA INDEX NAME)

IT 404844-11-7P 945028-56-8P 945028-63-7P

945028-64-8P 945028-66-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(bcr-abl/DNA targeting compds.)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 945028-56-8 CAPLUS

CN Benzamide, 4-[[(2-hydroxyethyl)methylamino]methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 945028-63-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-nitro-3-(trifluoromethyl)- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline \\ C-NH \\ \hline \\ CF_3 \end{array}$$

RN 945028-64-8 CAPLUS

CN Benzamide, 3-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-

pyrimidinyl]amino]phenyl]-4-nitro- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C \\ \hline C \\ \hline \end{array}$$

RN 945028-66-0 CAPLUS

CN Benzamide, 4-amino-3-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C - NH \\ \hline Me \\ \end{array}$$

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

- L11 ANSWER 15 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2007:418588 CAPLUS
- DN 147:257793
- TI Preparation of the imatinib
- IN Kompella, Amala; Srinivas, Rachakonda; Rao, Adibhatla Kali Satya Bhujanga; Nannapaneni, Venkaiah Chowdary
- PA Natco Pharma Limited, India
- SO Indian Pat. Appl., 33pp.

CODEN: INXXBQ

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
			- marinemanne		
ΡI	IN 2003MA00462	A	20070209	IN 2003-MA462	20030606
PRAI	IN 2003-MA462		20030606	)	
OS	CASREACT 147:257793		A STATE OF THE PARTY OF THE PAR	ner.	

AB A process for the preparation of title compound I was disclosed. For example, N-alkylation of N-methylpiperazine with benzyl chloride II afforded title compound I in 61% yield. Of note, purification via column chromatog. is avoided

at all stages in the preparation of title compound I.

IT 404844-11-7P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of the imatinib)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

```
L11 ANSWER 16 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
      2007:150876 CAPLUS
ΑN
DN
      146:185242
      Triflusal-containing polymers for stent coating
ΤI
ΙN
      San Roman Del Barrio, Julio; Rodriguez-Crespo, Gema; Fernandez-Gutierrez,
      Mar; Gallardo-Ruiz, Alberto; Duocastella-Codina, Luis; Molina-Crisol,
      Maria
      J. Uriach y Compania S.A., Spain
PA
      PCT Int. Appl., 20 pp.
      CODEN: PIXXD2
DT
      Patent
LA
      English
FAN.CNT 1
                                       DATE....
                              KIND
                                                     APPLICATION NO.
      PATENT NO.
                                                                                  DATE
                                                     _____
                                                                                 _____
                              ____
                               A1
                                     20070208
                                                    WO 2006-EP9156
      WO 2007014787
                                                                                 20060920
PΙ
          W: AE, AG, AL, AM, AF, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
           RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
                GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
               KG, KZ, MD, RU, TJ, TM
                                      20070328
      EP 1767552
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                                                                                   20050921
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                BA, HR, MK, YU
      AU 2006274995
                                       20070208
                                                      AU 2006-274995
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      EP 1940894
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                                       20080709
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                IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BA,
      JP 2009509013
                                       20090305
                                                      JP 2008-531610
                                                                                   20060920
      MX 2008003738
                               Α
                                       20080404
                                                      MX 2008-3738
                                                                                   20080318
      KR 2008059234
                                       20080626
                                                      KR 2008-709344
                               Α
                                                                                   20080418
      IN 2008CN01960
                               Α
                                       20090206
                                                      IN 2008-CN1960
                                                                                   20080421
      US 20080249617
                               Α1
                                       20081009
                                                      US 2008-67563
                                                                                   20080423
PRAI EP 2005-380204
                               Α
                                       20050921
      WO 2006-EP9156
                               W
                                       20060920
      New triflusal-containing polymeric compds. resulting from the polymerization of
AB
      2-(methacryloyloxy)ethyl 2-acetyloxy-4-(trifluoromethyl)benzoate with Bu
      acrylate are described. These new polymers exhibit good adhesion and
      crack-bridging properties and are particularly suitable for the coating of
      stents.
      152459-94-4, CGP-53716
IT
      RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
          (triflusal-containing polymers for stent coating)
RN
      152459-94-4 CAPLUS
      Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-
CN
```

(CA INDEX NAME)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 17 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2006:1337398 CAPLUS
ΑN
     146:81891
DN
     Process for preparation of isotopically labeled imatinib and intermediates
ΤI
ΙN
     Salter, Rhys; Rodriguez Perez, Maria Ines; Moenius, Thomas; Voges, Rolf;
     Andres, Hendrik; Bordeaux, Kirk
PA
     Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.
     PCT Int. Appl., 36pp.
SO
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 1
                                   DATE
                          KIND
                                               APPLICATION NO.
     PATENT NO.
                                                                        DATE
                                   .....
                           ____
     WO 2006133904
                            A2
                                   20061221
                                                WO 2006-EP5676
                                                                         20060613
PΙ
                            A3
     WO 2006133904
                                   20070322
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
              KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
              VN, YU, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM
     AU 2006257316
                           A1
                                   20061221
                                                AU 2006-257316
                                                                         20060613
                                                CA 2006-2610193
     CA 2610193
                            A1
                                   20061221
                                                                         20060613
     EP 1896447
                            A2
                                   20080312
                                                EP 2006-754340
                                                                         20060613
             AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2009501137
                           Τ
                                   20090115
                                                JP 2008-516217
                                                                         20060613
     IN 2007DN09474
                            Α
                                   20080627
                                                IN 2007-DN9474
                                                                         20071207
     CN 101198601
                                   20080611
                                                CN 2006-80020947
                                                                         20071212
                            Α
     MX 2007015876
                                   20080304
                                                MX 2007-15876
                            Α
                                                                         20071213
                                   20080514
                                                KR 2008-700866
     KR 2008042066
                            Α
                                                                         20080111
PRAI GB 2005-12091
                            Α
                                   20050614
     WO 2006-EP5676
                            W
                                   20060613
OS
     MARPAT 146:81891
AB
     This invention relates to a new process for preparation of isotopically labeled
     imatinib and intermediates. For example,
     4-\text{chloromethyl-N-}[4-\text{methyl-3-}[4-(1-\text{oxido-3-pyridinyl})-[2-14C]-\text{pyrimidin-2-}]
     ylamino]phenyl]benzamide hydrochloride (preparation given) was reacted with
     1-methylpiperazine in ethanol, followed by the addition of methanesulfonic
     acid to give methanesulfonate of I [X = 14C]. Isotopically labeled
     intermediates were also described.
ΙT
     404844-11-7
     RL: RCT (Reactant); RACT (Reactant or reagent)
         (preparation of isotopically labeled imatinib and intermediates)
     404844-11-7 CAPLUS
RN
     Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[4-(3-pyridinyl)-2-
CN
     pyrimidinyl]amino]phenyl]- (CA INDEX NAME)
```

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 18 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2006:1226019 CAPLUS
ΑN
DN
     146:7975
     Preparation of pyrrolopyridines as protein kinase inhibitors
ΤI
IN
     Okram, Barun; Ren, Pingda; Gray, Nathanael S.
PA
     IRM LLC, Bermuda; The Scripps Research Institute
SO
     PCT Int. Appl., 51pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 1
                                    DATE
     PATENT NO.
                           KIND
                                                 APPLICATION NO.
                                                                            DATE
                            ____
                                                  _____
     WO 2006124863
                             A2
                                    20061123
                                                 WO 2006-US18868
                                                                            20060515
PI
                             A3
     WO 2006124863
                                    20070125
          W: AE, AG, AL, AM, AS, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              CN, CO, CR, CU, CZ, DE, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
              KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
               VN, YU, ZA, ZM, ZW
          RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
               GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
               KG, KZ, MD, RU, TJ, TM
     AU 2006247322
                            A1
                                    20061123
                                                  AU 2006-247322
                                                                             20060515
     CA 2608333
                                    20061123
                             Α1
                                                 CA 2006-2608333
                                                                             20060515
                             A2
                                    20080312
                                                  EP 2006-759904
     EP 1896470
                                                                             20060515
          R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
               IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     JP 2008540664
                            Τ
                                  20081120 JP 2008-512430
                                                                             20060515
     MX 2007014327
                            Α
                                    20080211
                                                  MX 2007-14327
                                                                             20071115
     KR 2008016643
                            Α
                                   20080221
                                                 KR 2007-729309
                                                                             20071214
                                  20080118
20080709
     IN 2007DN09783
                           A
                                                 IN 2007-DN9783
                                                                            20071217
     CN 101218241
                                                 CN 2006-80025008
                            A
                                                                            20080108
US 20080300267
PRAI US 2005-681853P
                            A1 20081204
                                                 US 2008-914210
                                                                             20080402
                           P 20050516
W 20060515
     WO 2006-US18868
OS
     MARPAT 146:7975
AΒ
     The title compds. I-III [n = 0-2; R1 = halo, (halo)alkyl, (halo)alkoxy; R2
     = (un)substituted arylalkyl or heteroaryl; X = CR7 or N (wherein R7 = H,
     alkyl)], useful in treating or preventing diseases or disorders associated
     with abnormal or deregulated kinase activity, particularly diseases or disorders that involve abnormal activation of the CDKs, Aurora, Jak2,
     Rock, CAMKII, FLT3, Tie2, TrkB, FGFR3 and KDR kinases, were prepared E.g.,
     a multi-step synthesis of IV, starting from 7-azaindole, was given.
     Compds. I-III showed IC50's in the range of 10 nM to 2 \muM when tested
     in FGFR3 enzymic assay. Pharmaceutical compns. comprising compds. I-III
     are disclosed.
     915414-58-3P 915414-69-6P 915414-77-6P
ΙT
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
      (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
      (Uses)
         (preparation of pyrrolopyridines as novel protein kinase inhibitors useful
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in treatment and prevention of diseases associated with abnormal or

deregulated protein kinase activity)

RN 915414-58-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(1H-pyrrolo[2,3-b]pyridin-4-yl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 915414-69-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(1H-pyrrolo[2,3-b]pyridin-3-yl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 915414-77-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(1H-pyrrolo[2,3-b]pyridin-5-yl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 19 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2006:1013769 CAPLUS

DN 145:356807

TI Method for preparation of 4-pyridine-3-yl-2-[4-methyl-3- (benzamido)phenylamino]pyrimidine derivatives and application as pharmaceutical compositions

IN Zheng, Shu; Xu, Rongzhen; Chen, Hongxiang

PA Hangzhou New Rayjay Biomed Corporation, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 19pp. CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE \_\_\_\_\_ \_\_\_\_ \_\_\_\_\_ CN 1706840 20051214 CN 2004-10009181 20040607 РΤ Α PRAI CN 2004-10009181 20040607

OS CASREACT 145:356807; MARPAY 145:356807

AΒ The title derivs. have the general formula I (R1 to R7 = H, C1-4 alkyl, lower alkyl substituted by -OH, -COR8, -CN, or -CONH2; R8 = C1-C4 alkyl, cycloalkyl, or cycloalkyl substituted by OH; and X = C1-C4 alkylene, -NHCO-, or -OCO-). Their preparation method comprises reacting 4-chloromethylbenzoyl chloride with 2-(5-aminophenylamino)-4-pyridine-3-yl-pyrimidine derivative to obtain N-[3-(4-pyridine-3-yl-pyrimidin-2-amino)phenyl]-4-chloromethylbenzamide derivative, then reacting with piperazine to generate title derivative hydrochloride, further reacting with methanesulfonic acid to obtain the final product. The claimed compds. can be used for treating leukemia and tumor, which have remarkable inhibiting effect on the growth of leukocyte in peripheral blood of leukemia patients. The claimed compds. can constitute compns. with pharmaceutically-acceptable adjuvants, and effective amount of one or more other known antileukemia or antitumor medicines for treating leukemia and tumor to reach synergistic effect.

IT 404844-11-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of pyridinyl[methyl(benzamido)phenylamino]pyrimidine derivs. and application for treating leukemia)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

## 10/560,352

- L11 ANSWER 20 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2006:735123 CAPLUS
- DN 146:223251
- TI A General Strategy for Creating "Inactive-Conformation" Abl Inhibitors
- AU Okram, Barun; Nagle, Advait; Adrian, Francisco J.; Lee, Christian; Ren, Pingda; Wang, Xia; Sim, Taebo; Xie, Yongping; Wang, Xing; Xia, Gang; Spraggon, Glen; Warmuth, Markus; Liu, Yi; Gray, Nathanael S.
- CS Department of Chemistry and the Skaggs Institute for Chemical Biology, The Scripps Research Institute, La Jolla, CA, 92037, USA
- SO Chemistry & Biology (Cambridge, MA, United States) (2006), 13 7), 779-786 CODEN: CBOLE2; ISSN: 1074-5521
- PB Cell Press
- DT Journal
- LA English
- Summary: Kinase inhibitors that bind to the ATP cleft can be broadly classified into two groups: Those that bind exclusively to the ATP site with the kinase assuming a conformation otherwise conducive to phosphotransfer (type I), and those that exploit a hydrophobic site immediately adjacent to the ATP pocket made accessible by a conformational rearrangement of the activation loop (type II). To date, all type II inhibitors were discovered by using structure-activity-guided optimization strategies. Here, we describe a general pharmacophore model of type II inhibition that enables a rational "hybrid-design" approach whereby a 3-trifluoromethylbenzamide functionality is appended to four distinct type I scaffolds in order to convert them into their corresponding type II counterparts. We demonstrate that the designed compds. function as type II inhibitors by using biochem. and cellular kinase assays and by cocrystallog. with Abl.
- IT 879507-24-1P 924655-25-4P

  RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

  (preparation and inhibition of Abl, tyrosine and serine/threonine kinases by
  - inactive-conformation Abl inhibitors)
- RN 879507-24-1 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

- RN 924655-25-4 CAPLUS
- CN Benzamide, N-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 21 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2006:656689 CAPLUS
ΑN
DN
     145:103728
     A process for preparation of imatinib base
ΤI
ΙN
     Szczepek, Wojciech; Luniewski, Wojciech; Kaczmarek, Lukasz; Zagrodzki,
     Boqdan; Samson-Lazinska, Dorota; Szelejewski, Wieslaw; Skarzynski, Maciej
PA
     Instytut Farmaceutyczny, Pol.
     PCT Int. Appl., 37 pp.
SO
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 1
                                  DATE
                          KIND
                                               APPLICATION NO.
     PATENT NO.
                                                                        DATE
                                                _____
                           ____
     WO 2006071130
                                   20060706
                                               WO 2005-PL88
                                                                        20051230
                            A2
РΤ
     WO 2006071130
                           A3
                                  20060928
         W: AE, AG, AL, AM, AT, AU, AE, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
              KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,
              VN, YU, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
              CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
              GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM
     EP 1833815
                                  20070919
                                               EP 2005-822030
                                                                        20051230
                           A 2
             AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
              IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,
              BA, HR, MK, YU
     US 20080194819
                                  20080814
                                               US 2007-813212
                                                                        20071121
                           Α1
PRAI PL 2004-372016
                            Α
                                  20041230
     PL 2005-376691
                            Α
                                  20050819
     PL 2005-377984
                                   20051108
                            Α
     WO 2005-PL88
                                  20051230
OS
     CASREACT 145:103728
AΒ
     The invention provides an improved process for preparation of imatinib base and
     its pharmaceutically-acceptable acid addition salts [imatinib is
     4-[(4-methyl-1-piperazinyl)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-
     pyrimidinyl]amino]phenyl]benzamide]. The process involves reduction of
     N-(5-nitro-2-methylphenyl)-4-(3-pyridinyl)-2-pyrimidinamine (I) using
     hydrazine in the presence of Raney nickel, followed by condensation with
     4-(chloromethyl)benzoyl chloride and then N-methylpiperazine. Compound I
     was obtained by reaction of 1-(2-methyl-5-nitrophenyl) guanidine nitrate
     (prepared from 2-methyl-5-nitroaniline and cyanamide) with
     3-(dimethylamino)-1-(3-pyridinyl)prop-2-en-1-one (prepared from
     3-acetylpyridine and DMF di-Me acetal).
ΙT
     404844-11-7P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
         (process for preparation of imatinib base)
RN
     404844-11-7 CAPLUS
CN
     Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-
     pyrimidinyl]amino]phenyl]- (CA INDEX NAME)
```

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 22 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2006:359376 CAPLUS

DN 144:412523

TI Preparation of pyrimidines as c-kit tyrosine kinase inhibitors

IN Kagayama, Kohei; Oyamada, Arihiro

PA Nippon Shinyaku Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

DAMENIE NO	TZTNID		ADDITOATTON NO	
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
		The state of the s	·	
PI JP 2006104195	A /	20060420	JP 2005-259929	20050907
PRAI JP 2004-259730	A	20040907	)	
		1	age.	

OS MARPAT 144:412523

AB Title compds. I [Ar = Q1, Q2; R1 = alkyl, cycloalkyl, alkenyl; R2 = alkyl, hydroxyalkyl] were prepared For example, BOP mediated amidation of 4-(n-propyl) benzoic acid with  $4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]aniline afforded compound II. In c-kit tyrosine kinase self-phosphorylation inhibition assays, the IC50 value of compound II was 0.002 <math>\mu$ M. Compds. I are claimed useful for the treatment of inflammation, cancer, etc.

IT 883751-31-3P 883751-32-4P 883751-33-5P 883751-34-6P 883751-36-8P 883751-37-9P 883751-38-0P 883751-39-1P 883751-41-5P 883751-42-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of pyrimidines as c-kit tyrosine kinase inhibitors for treatment of inflammation, cancer, etc.)

RN 883751-31-3 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-propyl-(CA INDEX NAME)

RN 883751-32-4 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-ethyl-(CA INDEX NAME)

RN 883751-33-5 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(1-methylethyl)- (CA INDEX NAME)

RN 883751-34-6 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-methyl-(CA INDEX NAME)

RN 883751-36-8 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-butyl-(CA INDEX NAME)

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RN 883751-37-9 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(2-methylpropyl)- (CA INDEX NAME)

RN 883751-38-0 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(1,1-dimethylethyl)- (CA INDEX NAME)

RN 883751-39-1 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-pentyl-(CA INDEX NAME)

RN 883751-41-5 CAPLUS

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RN 883751-42-6 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(1-methylethenyl)- (CA INDEX NAME)

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L11 ANSWER 23 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2006:333442 CAPLUS
ΑN
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     144:370121
     Preparation of pyrimidine derivatives as phosphatase and kinase inhibitors
ΤI
     for treating a variety of diseases
IN
     Klebl, Bert; Baumann, Matthias; Hoppe, Edmund; Brehmer, Dirk; Daub,
     Henrik; Keri, Gyoergy; Varga, Zoltan; Marosfalvi, Jenoe; Oerfi, Laszlo
     GPC Biotech A.-G., Germany
PA
     PCT Int. Appl., 100 pp.
SO
     CODEN: PIXXD2
DT
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LA
     English
FAN.CNT 1
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                                                 APPLICATION NO.
     PATENT NO.
                                                                           DATE
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PRAI US 2004-604685P
                            Ρ
                                   20040827
     WO 2005-EP9291
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                                   20050829
OS
     MARPAT 144:370121
AΒ
     The present invention relates to pyrimidine derivs. of general formula I
     (wherein R and R^* = CH3, C2H5, R', R17; R' = H, F, Cl, CN, OCF3, NH2, SH,
     etc.; R17 = H, R', CH3, C2H5, CH=CH2, etc.; Z = NH-CO-R5, CO-NH-R5,
     NH-CS-R5, etc. or a substituted ring or ring system; R5 = H, R4, CH2R3,
     etc. or a substituted ring, e.g., Ph, naphthyl; R3, R4 = H, OH, SH,
     heterocyclic ring, etc.; X = a substituted ring or ring system), methods
     for their synthesis, and the use of said pyrimidine derivs. as
     pharmaceutically active agents, especially for the prophylaxis and/or treatment
     of cell proliferation disorders, cancer, leukemia, erectile dysfunction,
     cardiovascular diseases and disorders, inflammatory diseases, transplant
     rejection, immunol. diseases, neuroimmunol. diseases, autoimmune diseases,
     infective diseases including opportunistic infections, prion diseases
     and/or neurodegeneration. I are inhibitors of phosphatase and kinase,
     specifically selected from Abl, Akt, c-kit, EGF-R, GSK3b, JNK, Lck,
     PDGF-R, PknG, and ROCK2. Furthermore, the present invention relates to
     pharmaceutical compns. containing at least one pyrimidine derivative and/or
     pharmaceutically acceptable salts thereof as an active ingredient together
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with at least one pharmaceutically acceptable carrier, excipient or

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diluents as well as to methods for prophylaxis and/or treatment of the
    above-mentioned diseases and disorders. For example, II was prepared from
    the appropriate amine and appropriate benzoyl chloride. G315The I that
    were tested were able to inhibit the amount of pathogenic prion protein
    PrPSc in infected cells at concentration between 5 and 20 \mu M. A method for
    detecting prion infections and/or prion diseases in a sample is also
    claimed, the method comprises administering I to a sample and detecting
    activity in said sample of the human cellular protein kinase Abl.
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    4-Methoxy-N-[4-methyl-3-[[4-(pyridin-2-yl)pyrimidin-2-
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    N-[3-[4-[4-(Imidazol-1-yl)phenyl]pyrimidin-2-yl]amino]-4-methylphenyl]-
    3,4,5-trimethoxybenzamide 881674-76-6P,
     4-Cyano-N-[3-[[4-[4-(imidazol-1-yl)phenyl]pyrimidin-2-yl]amino]-4-
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N-[3-[4-(3,4-Dimethoxyphenyl)pyrimidin-2-yl]amino]-4-methylphenyl]-4-
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4-Chloromethyl-N-[3-[[4-(3,4-dimethoxyphenyl)pyrimidin-2-yl]amino]-4-
methylphenyl]benzamide 881675-13-4P,
4-Chloro-N-[3-[[4-(3,4-dimethoxyphenyl)pyrimidin-2-yl]amino]-4-
methylphenyl]benzamide 881675-15-6P,
N-[3-[4-(3,4-Dimethoxyphenyl)pyrimidin-2-yl]amino]-4-methylphenyl]-3,4,5-
trimethoxybenzamide 881675-19-0P,
4-Cyano-N-[3-[4-(3,4-dimethoxyphenyl)pyrimidin-2-yl]amino]-4-
methylphenyl]benzamide 881675-23-6P,
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881676-40-0P, 4-Methyl-N-[4-methyl-3-[[4-(pyridin-4-yl)pyrimidin-2-
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3-Fluoro-N-[3-[4-[4-(imidazol-1-yl)phenyl]pyrimidin-2-yl]amino]-4-
methylphenyl]benzamide 881677-31-2P,
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4-Methyl-N-[4-methyl-3-[[4-(pyridin-2-yl)pyrimidin-2-yl)]
yl]amino]phenyl]benzamide 881677-39-0P,
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2-Methoxy-N-[4-methyl-3-[[4-(pyridin-2-yl)pyrimidin-2-
yl]amino]phenyl]benzamide
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
   (drug candidate; preparation of pyrimidine derivs. as phosphatase and kinase
   inhibitors for treating diseases)
152459-94-4 CAPLUS
Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-
(CA INDEX NAME)
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RN

CN

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-13-4 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-14-5 CAPLUS

CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-15-6 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-18-9 CAPLUS

CN Benzamide, 3,5-dimethoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-19-0 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(trifluoromethoxy)- (CA INDEX NAME)

RN 475587-25-8 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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RN 475587-29-2 CAPLUS

CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-32-7 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-38-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(trifluoromethoxy)- (CA INDEX NAME)

RN 475587-43-0 CAPLUS

CN Benzamide, 3,5-dimethoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-44-1 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-46-3 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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RN 881674-72-2 CAPLUS

CN Benzamide, 4-chloro-N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881674-73-3 CAPLUS

CN Benzamide, N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]-4-methyl- (CA INDEX NAME)

RN 881674-75-5 CAPLUS

CN Benzamide, N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]-3,4,5-trimethoxy- (CA INDEX NAME)

RN 881674-76-6 CAPLUS

CN Benzamide, 4-cyano-N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881674-80-2 CAPLUS

CN Benzamide, N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]-2-methoxy- (CA INDEX NAME)

RN 881674-84-6 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881675-00-9 CAPLUS

CN Benzamide, N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-4-methyl- (CA INDEX NAME)

RN 881675-01-0 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-[4-(3,4-dimethoxyphenyl)-2-

pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881675-13-4 CAPLUS

CN Benzamide, 4-chloro-N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881675-15-6 CAPLUS

CN Benzamide, N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3,4,5-trimethoxy- (CA INDEX NAME)

RN 881675-19-0 CAPLUS

CN Benzamide, 4-cyano-N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881675-23-6 CAPLUS

CN Benzamide, N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-2-methoxy- (CA INDEX NAME)

RN 881676-31-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 881676-36-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 881676-40-0 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 881676-59-1 CAPLUS

CN Benzamide, N-[3-[[4-(3,4-dimethoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3-fluoro- (CA INDEX NAME)

RN 881676-64-8 CAPLUS

CN Benzamide, 3-fluoro-N-[3-[[4-[4-(1H-imidazol-1-yl)phenyl]-2-pyrimidinyl]amino]-4-methylphenyl]- (CA INDEX NAME)

RN 881677-31-2 CAPLUS

CN Benzamide, 4-bromo-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 881677-39-0 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 881677-41-4 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 24 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2006:235109 CAPLUS
AN
DN
     144:312102
     Preparation of (phenylamino)pyrimidine derivatives as inhibitors of
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IN
     Kompella, Amala Kishan; Adibhatla Kali Satya, Bhujanga Rao; Rachakonda,
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     Natco Pharma Limited, India
PA
     PCT Int. Appl., 85 pp.
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                            Α
                                  20071105
                                                KR 2007-708040
                                                                           20070409
     US 20080249121
                            A1
                                   20081009
                                                  US 2008-42240
                                                                            20080304
                                                  US 2008-42235
     US 20080306100
                            A1
                                   20081211
                                                                            20080304
PRAI IN 2004-CH908
                                    20040909
                             Α
     WO 2005-IN243
                             W
                                    20050719
     US 2007-714565
                             Α2
                                    20070305
     CASREACT 144:312102; MARPAT 144:312102
OS
AΒ
     The present invention relates to preparation of novel (phenylamino)pyrimidine
     derivs. I [wherein X = CH or N; n = 1 or 2; R = H or Me; R' = CF3] or
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The present invention relates to preparation of novel (phenylamino)pyrimidine derivs. I [wherein X = CH or N; n = 1 or 2; R = H or Me; R' = CF3] or pharmaceutically acceptable salts thereof as inhibitors of BCR-ABL kinase for the treatment of chronic myeloid leukemia (CML). For example, the compound II was prepared in a multi-step synthesis in good yield. Pharmaceutical composition containing the novel (phenylamino)pyrimidine derivs. and

processes for their prepn were also presented. Since the IC50 values of these mols. are in the range of 0.1 to 10.0 nm, these novel compds. are

potentially useful for the treatment of CML.

IT 879507-24-1P 879507-25-2P 879507-26-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of (phenylamino)pyrimidine derivs. as inhibitors of BCR-ABL kinase for treatment of chronic myeloid leukemia)

RN 879507-24-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 879507-25-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3,5-bis(trifluoromethyl)- (CA INDEX NAME)

RN 879507-26-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-2-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 25 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2006:176834 CAPLUS

DN 144:370108

TI Preparation and application of phenylamino pyrimidine derivatives

IN Chen, Guoging

PA Chen Guoqing, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 41 pp.

CODEN: CNXXEV

DT Patent

LA Chinese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
ΡI	CN 1560050	A	20050105	CN 2004-10014093	20040218		
	CN 1309719	С	20070411				
PRAI	CN 2004-10014093		20040218 /				
OS	MARPAT 144:370108		- Interest of the second				

AB The invention relates to a phenylamino pyrimidine derivative, its preparing process, medicines adopting it as active component, a method of curing the diseases relative to tyrosine kinase, especially to Bcr-Abl, like cancers, etc, and the application of its acting as medicine and making tyrosine kinase inhibition medicines to relieve the effect of tyrosine kinase to endotherms like human beings.

IT 791609-55-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and application of phenylamino pyrimidine derivs.)

RN 791609-55-7 CAPLUS

CN Benzamide, 4-hydroxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

IT 791609-56-8P 791609-65-9P 791609-67-1P

791609-71-7P 791609-74-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation and application of phenylamino pyrimidine derivs.)

RN 791609-56-8 CAPLUS

CN Benzamide, 4-(2-aminoethoxy)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$_{\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{O}}^{\text{O}}$$

RN 791609-65-9 CAPLUS

CN Benzamide, 4-(aminofluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C \\ NH \\ \hline N \\ Me \end{array}$$

RN 791609-67-1 CAPLUS

CN Benzamide, 4-(aminodifluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C-NH \\ \hline NH \\ N \end{array}$$

RN 791609-71-7 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]fluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-74-0 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]difluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

## 10/560,352

- L11 ANSWER 26 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2006:87941 CAPLUS
- DN 144:331390
- TI Design and synthesis of 3-substituted benzamide derivatives as Bcr-Abl kinase inhibitors
- AU Asaki, Tetsuo; Sugiyama, Yukiteru; Hamamoto, Taisuke; Higashioka, Masaya; Umehara, Masato; Naito, Haruna; Niwa, Tomoko
- CS Discovery Research Laboratories, Nippon Shinyaku Co, Ltd, Minami-ku, Kyoto, Kisshoin, 601-8550, Japan
- SO Bioorganic & Medicinal Chemistry Letters (2006), 16(5), 1421-1425 CODEN: BMCLE8; ISSN: 0960-894X
- PB Elsevier B.V.
- DT Journal
- LA English
- OS CASREACT 144:331390
- AB A series of 3-substituted benzamide derivs. structurally related to STI-571 (imatinib mesylate), a Bcr-Abl tyrosine kinase inhibitor used to treat chronic myeloid leukemia, was prepared and evaluated for antiproliferative activity against the Bcr-Abl-pos. leukemia cell line K562. About ten 3-halogenated and 3-trifluoromethyl-benzamide derivs. were identified as highly potent Bcr-Abl kinase inhibitors. One of these, NS-187, is a promising new candidate Bcr-Abl inhibitor for the therapy of STI-571-resistant chronic myeloid leukemia.
- IT 859213-40-4P
  - RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
    - (preparation substituted benzamide derivs. and study of their activity as Bcr-Abl kinase inhibitors)
- RN 859213-40-4 CAPLUS
- CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(bromomethyl)-3-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

L11 ANSWER 27 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:1068885 CAPLUS

DN 143:338914

TI Metabolism and disposition of imatinib mesylate in healthy volunteers

AU Gschwind, Hans-Peter; Pfaar, Ulrike; Waldmeier, Felix; Zollinger, Markus; Sayer, Claudia; Zbinden, Peter; Hayes, Michael; Pokorny, Rolf; Seiberling, Michael; Ben-Am, Monique; Peng, Bin; Gross, Gerhard

CS Exploratory Development/Drug Metabolism & Pharmacokinetics, Novartis Pharma AG, Basel, Switz.

SO Drug Metabolism and Disposition (2005), 33(10), 1503-1512 CODEN: DMDSAI; ISSN: 0090-9556

PB American Society for Pharmacology and Experimental Therapeutics

DT Journal

LA English

Imatinib mesylate (GLEEVEC, GLIVEC, formerly STI571) has demonstrated AB unprecedented efficacy as first-line therapy for treatment for all phases of chronic myelogenous leukemia and metastatic and unresectable malignant gastrointestinal stromal tumors. Disposition and biotransformation of imatinib were studied in four male healthy volunteers after a single oral dose of 239 mg of 14C-labeled imatinib mesylate. Biol. fluids were analyzed for total radioactivity, imatinib, and its main metabolite CGP74588. Metabolite patterns were determined by radio-high-performance liquid chromatog. with off-line microplate solid scintillation counting and characterized by liquid chromatog.-mass spectrometry. Imatinib treatment was well tolerated without serious adverse events. Absorption was rapid (tmax 1-2 h) and complete with imatinib as the major radioactive compound in plasma. Maximum plasma concns. were  $0.921\pm0.095~\mu g/mL$  (mean  $\pm$ S.D., n = 4) for imatinib and  $0.115\pm0.026~\mu g/mL$  for the pharmacol. active N-desmethyl metabolite (CGP74588). Mean plasma terminal elimination half-lives were 13.5±0.9 h for imatinib, 20.6±1.7 h for CGP74588, and 57.3±12.5 h for 14C radioactivity. Imatinib was predominantly cleared through oxidative metabolism Approx. 65 and 9% of total systemic exposure [AUCO-24 h (area under the concentration time curve) of radioactivity] corresponded to imatinib and CGP74588, resp. The remaining proportion corresponded mainly to oxidized derivs. of imatinib and CGP74588. Imatinib and its metabolites were excreted predominantly via the biliary-fecal route. Excretion of radioactivity was slow with a mean radiocarbon recovery of 80% within 7 days (67% in feces, 13% in urine). Approx. 28 and 13% of the dose in the excreta corresponded to imatinib and CGP74588, resp.

IT 865487-51-0

RL: BSU (Biological study, unclassified); BIOL (Biological study) (metabolism and disposition of imatinib mesylate in healthy volunteers)

RN 865487-51-0 CAPLUS

CN Benzoic acid, 4-[[[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]amino]carbonyl]- (CA INDEX NAME)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

## ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 28 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
       2005:638614 CAPLUS
ΑN
DN
       143:149136
       Protection of tissues and cells from cytotoxic effects of ionizing
ΤI
       radiation by ABL inhibitors
       Reddy, E. Premkumar; Reddy, M. V. Ramana; Cosenza, Stephen C.; Gumireddy,
IN
       Kiranmai
       Temple University of the Commonwealth System of Higher Education, USA
PA
       PCT Int. Appl., 151 pp.
SO
       CODEN: PIXXD2
DT
       Patent
LA
       English
FAN.CNT 1
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       PATENT NO.
                                                  DATE
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       WO 2005065074
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РΤ
                                        A3
       WO 2005065074
                                                  20060223
             2005065074

A3 20060223

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                    SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
                    SN, TD, TG
PRAI US 2003-501783P
                                        Ρ
                                                 20030909
OS
       MARPAT 143:149136
       Pre-treatment with ABL protein kinase inhibitors protects normal cells
AΒ
       or more radioprotectant to a patient prior to anticancer radiotherapy
       reduces the cytotoxic side effects of the radiation on normal cells.
       radioprotective effect allows for safely increasing the dosage of
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from the toxic side effects of ionizing radiation. Administration of one anticancer radiation. Amelioration of toxicity following inadvertent radiation exposure may also be mitigated.

ΙT 152459-94-4 152459-96-6 152459-98-8 152459-99-9

> RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ABL protein kinase inhibitors as radioprotectants)

RN 152459-94-4 CAPLUS

Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-CN (CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

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L11 ANSWER 29 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
          2005:614536 CAPLUS
ΑN
DN
          143:115392
          Preparation of conjugated small molecules for diagnostic and therapeutic
ΤI
ΙN
          Grotzfeld, Robert M.; Milanov, Zdravko V.; Patel, Hitesh K.; Lai, Andiliy
          G.; Mehta, Shamal A.; Lockhart, David J.
          Ambit Biosciences Corp., USA
PA
          U.S. Pat. Appl. Publ., 63 pp.
SO
          CODEN: USXXCO
DT
          Patent
LA
          English
FAN.CNT 1
                                                  KIND
                                                                                         APPLICATION NO.
          PATENT NO.
                                                                 DATE
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                                                                 20050714
          US 20050153371
                                                                                         US 2005-31638
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PΤ
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          AU 2005204428
                                                                 20050728
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                                                    Α1
                                                                                                                                        20050107
          CA 2551495
                                                                 20050728
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                                                    Α1
          WO 2005067644
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                                                                 20050728
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                         067644

A3 20051013

AE, AG, AL, AM, AT, AU, AE, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, RM GH GM KF LS MW MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
          WO 2005067644
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                                                                 20061018
                                                                                       EP 2005-705221
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                          IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
          JP 2007521338
                                                   Τ
                                                                20070802
                                                                                         JP 2006-549423
PRAI US 2004-535173P
                                                    Ρ
                                                                 20040107
          US 2004-557941P
                                                    Ρ
                                                                 20040330
          WO 2005-US456
                                                    W
                                                                 20050107
OS
          CASREACT 143:115392
AΒ
          Provided herein are linker compds. and conjugates that include the linker
          compds. In one embodiment, the linker compds. comprise 2 or 3 residues of
          6-aminohexanoic acid and optionally 7-10 residues of polyethyleneglycol
          (PEG). The linker compds. are useful in forming conjugates with one or
          more components useful in biopharmaceutical or bioanal. applications. In
          particular, the biopharmaceutically useful compds. are kinase inhibitors.
          The conjugates described herein have utility in a variety of diagnostic,
          separation, and therapeutic applications. Thus, I was prepared from SB 202190,
          PEG-azide and the biotin-linker compound
ΙT
          857892-09-2P
          RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic
          preparation); THU (Therapeutic use); BIOL (Biological study); PREP
          (Preparation); USES (Uses)
                 (preparation of conjugated biotins for diagnostic and therapeutic use)
          857892-09-2 CAPLUS
RN
CN
          1,4-Benzenedicarboxamide, N1-[49-[(3aS,4S,6aR)-hexahydro-2-oxo-1H-
          thieno[3,4-d]imidazol-4-yl]-31,38,45-trioxo-3,6,9,12,15,18,21,24,27-
          \verb|nonaoxa-30,37,44-triaza| nonatetracont-1-y1] - N4-[4-methy1-3-[[4-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy1-3-(3-methy
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pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A

PAGE 1-B

PAGE 1-C

PAGE 1-D



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L11 ANSWER 30 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2005:612254 CAPLUS
ΑN
     143:133396
DN
     Preparation of heterocyclyl moiety-containing amides as BCR-ABL tyrosine
ΤI
     kinase inhibitors
ΙN
     Asaki, Tetsuo; Sugiyama, Yukiteru; Segawa, Jun
PA
     Nippon Shinyaku Co., Ltd., Japan
SO
     PCT Int. Appl., 168 pp.
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PRAI JP 2003-431398
                             Α
                                     20031225
     WO 2004-JP19553
                              W
                                     20041227
OS
     MARPAT 143:133396
AB
     The title compds. I (R1 represents CH2R11 (R11 represents a nitrogenous
     saturated heterocyclic group), etc.; R2 represents alkyl, halogeno, haloalkyl,
     etc.; R3 represents hydrogen, halogeno, alkoxy; Het1 represents Q1, etc.;
     and Het2 represents pyrimidinyl, etc.) are prepared Thus
      3- difluoromethyl-4- (4-methylpiperazin-1-ylmethyl)-N-[4-methyl-3-[4-(5-methyl-3-1]] \\
     pyrimidinyl)pyrimidin-2-ylamino]phenyl]benzamide was prepared from
     4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]aniline and
     3-difluoromethyl-4-(4-methylpiperazin-1-ylmethyl)benzoyl chloride HCl
     salt. In an assay (for cell proliferation inhibiting activity) using K562
     cells, compds. of this invention showed IC50 values of < 0.00001 \mu M to
     0.001~\mu\text{M}. Formulations are given.
     859211-64-6P 859211-65-7P 859212-55-8P
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
      (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
      (Uses)
         (preparation of heterocyclyl moiety-containing amides as BCR-ABL tyrosine
```

kinase

inhibitors)

RN 859211-64-6 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-[(1-methyl-4-piperidinylidene)methyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 859211-65-7 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-[(1-methyl-4-piperidinylidene)methyl]-3-(trifluoromethyl)-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

RN 859212-55-8 CAPLUS

CN Benzamide, 4-[(1-methyl-4-piperidinylidene)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

IT 641615-11-4P 641615-12-5P 859213-40-4P,

4-(Bromomethyl)-3-trifluoromethyl-N-[4-methyl-3-[4-(5-

pyrimidinyl)pyrimidin-2-ylamino]phenyl]benzamide

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of heterocyclyl moiety-containing amides as BCR-ABL tyrosine kinase

inhibitors)

RN 641615-11-4 CAPLUS

CN Benzamide, 3-bromo-4-[(dimethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 641615-12-5 CAPLUS

CN Benzamide, 3-bromo-4-[(diethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 859213-40-4 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-4-(bromomethyl)-3-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 31 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2005:366660 CAPLUS

DN 143:126017

TI Engineering 3-alkyltriazenes to block bcr-abl kinase: a novel strategy for the therapy of advanced bcr-abl expressing leukemias

AU Katsoulas, Athanasia; Rachid, Zakaria; Brahimi, Fouad; McNamee, James; Jean-Claude, Bertrand J.

CS Cancer Drug Research Laboratory, Department of Medicine, Division of Medical Oncology, McGill University Health Center/Royal Victoria Hospital, Montreal, QC, H3A/AA1, San.

SO Leukemia Research (2005), 29(6), 693-700 CODEN: LEREDD; ISSN: 0145-2126

PB Elsevier B.V.

DT Journal

LA English

Recently, within the framework of a new strategy termed "combi-targeting," AΒ we designed ZRCM5 to contain a 2-phenylaminopyrimidopyridine moiety targeted to bcr-abl kinase and a triazene tail capable of generating a methyldiazonium species upon hydrolysis. The ability of ZRCM5 to block tyrosine kinase activity was tested in a short 10 min exposure ELISA involving isolated bcr-abl kinase and Western blotting assays. The results showed that: (a) ZRCM5 was hydrolyzed with a half-life of 27 min in cell culture media, (b) it blocked bcr-abl autophosphorylation in promyeloblastic leukemia K562 cells in a dose-dependent manner (IC50 =  $14.01~\mu\text{M})$  and (c) it induced dose-dependent levels of DNA strand breaks. In contrast, temozolomide (TEM), a clin. DNA damaging triazene capable of generating, like ZRCM5, a methyldiazonium species, could neither block bcr-abl tyrosine kinase activity in isolated enzyme nor in whole cell autophosphorylation assays. In cells expressing varied levels of bcr-abl, ZRCM5 was consistently more potent than TEM. The significant potency of ZRCM5 against the leukemia cells was attributed to its ability to simultaneously to block bcr-abl and related DNA repair activity while inducing significant DNA lesions in bcr-abl expressing leukemia cells. Further studies are ongoing to increase the affinity of ZRCM5 with the purpose of further enhancing its potency in bcr-abl expressing cells. ΙT 623901-04-2

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(ZRCM5 blocked bcr-abl kinase autophosphorylation, induced DNA strand breaks by dose dependent manner and also induced apoptosis, cytotoxicity in advanced bcr-abl expressing leukemia K562 cells)

RN 623901-04-2 CAPLUS

CN Benzamide, 4-[3-(hydroxymethyl)-3-methyl-1-triazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 32 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
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- AN 2004:1124644 CAPLUS
- DN 142:74589
- TI 2-Aminopyrimidine derivatives as Raf kinase inhibitors, process for their preparation, and their use, e.g., in the treatment of proliferative diseases such as cancer
- IN Batt, David Bryant; Ramsey, Timothy Michael; Sabio, Michael Lloyd
- PA Novartis A.-G., Switz.; Novartis Pharma G.m.b.H.
- SO PCT Int. Appl., 69 pp.
- CODEN: PIXXD2
- DT Patent LA English

LA ENGLIS

		ıt's

FAN.	AN.CNT 1 PATENT NO.					KIND DATE		APPLICATION NO.						DATE				
ΡI	WO	√O 2004110452			A1 20041223		WO 2004-EP6317						20040611					
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KΖ,	LC,
			LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NΙ,
			NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,
								TZ,										
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						BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,
			,	TD,							^							
	-	AU 2004246800 AU 2004246800						_	AU 2004-246800						20040611			
							_							20040611				
		2529090							CA 2004-2529090 EP 2004-739809									
	ĽР																	
		K:				•	•	ES,	,	•	,	,	,		NL,	SE,	MC,	PI,
	CN	1005			,	, , , , , , , , , , , , , , , , , , , ,			CZ, EE, HU, PL, SK CN 2004-80016328						20040611			
		N 1805748 R 2004011365 P 2006527230 S 20060293340				Δ		20060719		BR 2004-11365						20040611		
										IR 2004 11303						20040611		
						A		20060309		US 2004-560352 MX 2005-13349					arrect.	20051208		
		2005									IN 2005-CN3360					20051212		
PRAI		2003						2003			<b>-</b>			- •		_		
		2004						0611										
OS	MARPAT 142:74589																	

- AB The application discloses compds. that inhibit Raf kinase, having formula I [wherein R1 is an (un)substituted Ph or heteroaryl radical; and R2 is an (un)substituted Ph radical; or an N-oxide or pharmaceutically acceptable salt thereof]. Also disclosed are methods of treating diseases characterized by excessive signaling through the MAP kinase pathway by administering a RAF kinase-inhibiting amount of a compound I. In particular, I are useful for the treatment of proliferative diseases such as cancer. Over 30 compds. I were prepared For instance, amidation of 4-methyl-N3-[4-(pyrazin-2-yl)pyrimidin-2-yl]benzene-1,3-diamine with 3-CF3C6H4CO2H using BOP reagent and DIEA in DMF gave invention compound II. The prepared compds. I inhibited human Raf proteins as follows (IC50): wild-type C-Raf 0-01-0.7 μM; wild-type B-Raf 0.04-1.5 μM; and mutant B-Raf (V599E) 0.006-1.6 μM.
- IT 812699-95-9P, N-[3-[[4-(6-Chloropyridin-3-yl)pyrimidin-2-yl]amino]-4-methylphenyl]-3-(trifluoromethyl)benzamide

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (drug candidate; preparation of aminopyrimidine derivs. as Raf kinase inhibitors for treatment of proliferative diseases such as cancer) 812699-95-9 CAPLUS
Benzamide, N-[3-[[4-(6-chloro-3-pyridinyl)-2-pyrimidinyl]amino]-4-

methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN

CN

ΙT 812699-79-9P, N-[4-Methyl-3-[[4-(thiazol-2-yl)pyrimidin-2-yl)]yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812699-80-2P, N-[4-Methyl-3-[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812699-81-3P, N-[4-Methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-3-(1,1,2,2-yl)tetrafluoroethoxy) benzamide 812699-82-4P, 3-(Difluoromethoxy)-N-[4-methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2yl]amino]phenyl]benzamide 812699-83-5P, 3-(Dimethylamino)-N-[4-methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2yl]amino]phenyl]benzamide 812699-84-6P, N-[4-Methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-3-(2,2,2-yl)trifluoroethoxy) benzamide 812699-85-7P, N-[4-Methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-3-(trifluoromethyl)sulfanylbenzamide 812699-86-8P, N-[3-[4-(4-Methoxyphenyl)pyrimidin-2-yl]amino]-4-methylphenyl]-3-(trifluoromethyl) benzamide 812699-87-9P, N-[4-Methyl-3-[(4-phenylpyrimidin-2-yl)amino]phenyl]-3-(trifluoromethyl) benzamide 812699-88-0P, N-[3-[4-(3-Methoxyphenyl)pyrimidin-2-yl]amino]-4-methylphenyl]-3-(trifluoromethyl) benzamide 812699-89-1P, 3-(Diethylamino)-N-[4-methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl)]vl]amino]phenyl]benzamide 812699-90-4P, N-[4-Methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-3-(trifluoromethoxy) benzamide 812699-91-5P, N-[3-[4-(3-Ethylpyrazin-2-yl)pyrimidin-2-yl]amino]-4-methylphenyl]-3-(trifluoromethyl) benzamide 812699-92-6P, N-[4-Methyl-3-[4-[6-[3-(morpholin-4-yl)propyl]amino]pyridin-3yl]pyrimidin-2-yl]amino]phenyl]-3-(trifluoromethyl)benzamide yl]pyrimidin-2-yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812699-94-8P, 3-(Difluoromethoxy)-N-[3-[4-[6-[(2-1)]]]hydroxyethyl)amino]pyridin-3-yl]pyrimidin-2-yl]amino]-4methylphenyl]benzamide 812699-96-0P, N-[3-[[4-[6-(Dimethylamino)pyridin-3-yl]pyrimidin-2-yl]amino]-4methylphenyl]-3-(trifluoromethyl)benzamide 812699-97-1P, N-[3-[4-6-(2-Methoxyethoxy)pyridin-3-y1]pyrimidin-2-y1]amino]-4methylphenyl]-3-(trifluoromethyl)benzamide 812699-99-3P, N-[4-Methyl-3-[[4-[6-(4-methylpiperazin-1-yl)pyridin-3-yl]pyrimidin-2yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-01-9P,

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N-[4-Methyl-3-[4-[6-(methylamino)pyridin-3-yl]pyrimidin-2-
yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-03-1P,
N-[3-[[4-[6-(Cyclopropylamino)pyridin-3-yl]pyrimidin-2-yl]amino]-4-
methylphenyl]-3-(trifluoromethyl)benzamide 812700-05-3P,
N-[3-[[4-[6-(Cyclopentylamino)pyridin-3-yl]pyrimidin-2-yl]amino]-4-
methylphenyl]-3-(trifluoromethyl)benzamide 812700-07-5P,
N-[4-Methyl-3-[4-[6-(thiomorpholin-4-v1)pyridin-3-v1]pyrimidin-2-
yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-08-6P,
N-[4-Methyl-3-[[4-[6-(morpholin-4-yl)pyridin-3-yl]pyrimidin-2-
yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-09-7P,
N-[3-[4-(4-Hydroxy-3,4,5,6-tetrahydro[1,2']bipyridiny1-5'-y1)pyrimidin-2-
yl]amino]-4-methylphenyl]-3-(trifluoromethyl)benzamide
yl]pyrimidin-2-yl]amino]-4-methylphenyl]-3-(trifluoromethyl)benzamide
812700-11-1P, N-[4-Methyl-3-[[4-[6-[(pyridin-4-
ylmethyl)amino]pyridin-3-yl]pyrimidin-2-yl]amino]phenyl]-3-
(trifluoromethyl) benzamide 812700-12-2P,
N-[3-[4-[6-(2-Methoxyethy1)amino]pyridin-3-y1]pyrimidin-2-y1]amino]-4-
methylphenyl]-3-(trifluoromethyl)benzamide 812700-13-3P,
N-[3-[[4-[6-[(2-Hydroxypropyl)sulfanyl]pyridin-3-yl]pyrimidin-2-yl]amino]-
4-methylphenyl]-3-(trifluoromethyl)benzamide 812700-14-4P,
N-[4-Methyl-3-[[4-[6-(pyridin-3-yloxy)pyridin-3-yl]pyrimidin-2-
yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-15-5P,
N-[4-Methyl-3-[4-[6-[(1-methylpiperidin-4-yl)oxy]pyridin-3-yl]pyrimidin-2-
yl]amino]phenyl]-3-(trifluoromethyl)benzamide 812700-16-6P,
N-[3-[([4,5']Bipyrimidiny1-2-y1)amino]-4-methylpheny1]-3-
(trifluoromethyl)benzamide 812700-17-7P,
3-Fluoro-N-[4-methyl-3-[[4-(pyrazin-2-yl)pyrimidin-2-yl]amino]phenyl]-5-
(trifluoromethyl)benzamide
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)
   (drug candidate; preparation of aminopyrimidine derivs. as Raf kinase
   inhibitors for treatment of proliferative diseases such as cancer)
812699-79-9 CAPLUS
Benzamide, N-[4-methyl-3-[[4-(2-thiazolyl)-2-pyrimidinyl]amino]phenyl]-3-
(trifluoromethyl) - (CA INDEX NAME)
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RN

CN

RN 812699-80-2 CAPLUS
CN Benzamide, N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-81-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-3-(1,1,2,2-tetrafluoroethoxy)- (CA INDEX NAME)

RN 812699-82-4 CAPLUS

CN Benzamide, 3-(difluoromethoxy)-N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 812699-83-5 CAPLUS

CN Benzamide, 3-(dimethylamino)-N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 812699-84-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-3-(2,2,2-trifluoroethoxy)- (CA INDEX NAME)

RN 812699-85-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-3-[(trifluoromethyl)thio]- (CA INDEX NAME)

RN 812699-86-8 CAPLUS

CN Benzamide, N-[3-[[4-(4-methoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-87-9 CAPLUS

CN Benzamide, N-[4-methyl-3-[(4-phenyl-2-pyrimidinyl)amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-88-0 CAPLUS

CN Benzamide, N-[3-[[4-(3-methoxyphenyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

$$F_{3}C$$

$$C-NH$$

$$NH$$

$$N$$

$$N$$

$$Me$$

RN 812699-89-1 CAPLUS

CN Benzamide, 3-(diethylamino)-N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 812699-90-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethoxy)- (CA INDEX NAME)

RN 812699-91-5 CAPLUS

CN Benzamide, N-[3-[[4-(3-ethyl-2-pyrazinyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-92-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-[[3-(4-morpholinyl)propyl]amino]-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-93-7 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(4-pyridinylamino)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-94-8 CAPLUS

CN Benzamide, 3-(difluoromethoxy)-N-[3-[[4-[6-[(2-hydroxyethy1)amino]-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylpheny1]- (CA INDEX NAME)

RN 812699-96-0 CAPLUS

CN Benzamide, N-[3-[[4-[6-(dimethylamino)-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-97-1 CAPLUS

CN Benzamide, N-[3-[[4-[6-(2-methoxyethoxy)-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812699-99-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(4-methyl-1-piperazinyl)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-01-9 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(methylamino)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-03-1 CAPLUS

CN Benzamide, N-[3-[[4-[6-(cyclopropylamino)-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylpheny1]-3-(trifluoromethy1)- (CA INDEX NAME)

RN 812700-05-3 CAPLUS

CN Benzamide, N-[3-[[4-[6-(cyclopentylamino)-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-07-5 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(4-thiomorpholinyl)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-08-6 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(4-morpholinyl)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-09-7 CAPLUS

CN Benzamide, N-[3-[[4-[6-(4-hydroxy-1-piperidiny1)-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylpheny1]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-10-0 CAPLUS

CN Benzamide, N-[3-[[4-[6-[[3-(diethylamino)propyl]amino]-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-11-1 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-[(4-pyridinylmethyl)amino]-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-12-2 CAPLUS

CN Benzamide, N-[3-[[4-[6-[(2-methoxyethyl)amino]-3-pyridinyl]-2-pyrimidinyl]amino]-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-13-3 CAPLUS

CN Benzamide, N-[3-[[4-[6-[(2-hydroxypropy1)thio]-3-pyridiny1]-2-pyrimidiny1]amino]-4-methylpheny1]-3-(trifluoromethy1)- (CA INDEX NAME)

RN 812700-14-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-(3-pyridinyloxy)-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-15-5 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-[6-[(1-methyl-4-piperidinyl)oxy]-3-pyridinyl]-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-16-6 CAPLUS

CN Benzamide, N-[3-([4,5'-bipyrimidin]-2-ylamino)-4-methylphenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 812700-17-7 CAPLUS

CN Benzamide, 3-fluoro-N-[4-methyl-3-[[4-(2-pyrazinyl)-2-pyrimidinyl]amino]phenyl]-5-(trifluoromethyl)- (CA INDEX NAME)

IT 812700-23-5, N-[3-[[4-(6-Chloropyridin-3-yl)pyrimidin-2-yl]amino]-4-methylphenyl]-3-(difluoromethoxy)benzamide

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material; preparation of aminopyrimidine derivs. as Raf kinase inhibitors for treatment of proliferative diseases such as cancer)

RN 812700-23-5 CAPLUS

CN Benzamide, N-[3-[[4-(6-chloro-3-pyridinyl)-2-pyrimidinyl]amino]-4-methylphenyl]-3-(difluoromethoxy)- (CA INDEX NAME)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 33 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
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AN 2004:1080884 CAPLUS

DN 142:56339

- TI Process for the preparation of the anti-cancer drug imatinib and its analogs via aminolysis of a (chloromethyl)benzamide intermediate
- IN Kompella, Amala; Bhujanga Rao, Adibhatla Kali Sathya; Venkaiah Chowdary, Nannapaneni; Srinivas, Rachakonda
- PA Natco Pharma Limited, India
- SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

- DT Patent
- LA English

FAN. CNT 1

FAN.CNT I																				
		PATENT NO.						KIND DATE				APPL	ICAT	DATE						
	ΡĪ	WO 2004108699				7.1	_	200/1216		WO 2003-IN211						20030606				
	ГT	WO									BA, BB, BG, BR, BY, BZ									
			W:	ΑE,	AG,	ΑL,	AM,	AT,	ΑU,	AΖ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,	
				CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FΙ,	GB,	GD,	GE,	GH,	
				GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	ΚΡ,	KR,	KΖ,	LC,	LK,	LR,	
				LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NΙ,	NO,	NZ,	OM,	
				PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	
				TZ,	UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW						
			RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	AZ,	BY,	
				KG,	KΖ,	MD,	RU,	ΤJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	
				FI,	FR,	GB,	GR,	HU,	IE,	IT,	LU,	MC,	NL,	PT,	RO,	SE,	SI,	SK,	TR,	
				BF,	ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG	
		AU 2003242988				A1		2005	0104	AU 2003-242988						20030606				
	PRAI	AI WO 2003-IN211					Α		2003	0606										
	OS	CAS	SREAC'	T 143	2:56	339														
	OD	CIIL	7111110																	

The invention discloses a process for the manufacture of imatinib [I; X = AB 4-methylpiperazin-1-yl] and three of its new analogs I [X = morpholin-4-yl, piperidin-1-yl, and imidazol-1-yl] through aminolyis of the intermediate I [X = C1]. The mesylate (methanesulfonate) salt of imatinib is a popular life-saving drug, used to treat chronic myelogenous leukemia (CML). The other compds. are claimed as protein tyrosine kinase inhibitors (no data). The new process involves fewer steps (7) than the 9 steps in the known process disclosed in EP 0564409 and US 55211584, making the new process simple and cost effective. Yields are fairly high in all steps (65-90%), as compared to 20-50% realized by the prior art process. Reaction times are fairly low (8-10 h) in all steps, as compared to the time (12-25 h) for most of the stages in the prior art process. Obnoxious, foul smelling, and difficult-to-handle reagents are avoided, making the process safe and environmentally safe for com. application. Column chromatog., which is not practical on com. scale, is avoided at all stages. Consequently the process is simple and economical. Thus, 2-amino-4-nitrotoluene in BuOH was treated with HNO3 and then with aqueous cyanamide, and the mixture was heated at  $90-95^{\circ}$  for 12 h, to give  $61^{\circ}$ yield of 2-methyl-5-nitrophenylquanidine nitrate (II) on a 22-kg scale, with simple recovery of pure, unreacted 2-amino-4-nitrotoluene from the mother liquors, also on a multi-kg scale. Cyclization of II with 3-(dimethylamino)-1-(3-pyridyl)-2-propen-1-one in refluxing BuOH in the presence of NaOH for 10 h gave intermediate III quant., with III being isolated in 88% yield on a 21-kg scale. This was followed by reduction of the nitro group of III, using SnCl2 in concentrated HCl, to give the corresponding amine in 61.5% yield, on a 10-kg scale. The amine was amidated with 4-(C1CH2)C6H4COCl (preparation given) using Et3N in CHCl3, giving the (chloromethyl) benzamide intermediate I [X = C1] in 70% yield on a 13.9-kg

scale. This compound reacted with N-methylpiperazine in DMF over 4 h at  $20-40^{\circ}$ , giving imatinib free base after extraction into CHCl3, carbon treatment, evaporation, and trituration with EtOAc. Imatinib was obtained in 61% yield, 99.8% purity by HPLC, and on a 9.8-kg scale. The other three products I were obtained almost identically, using different amines in the final step.

IT 404844-11-7P

RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (process intermediate; manufacture of imatinib and analogs via aminolysis of (chloromethyl)benzamide intermediate)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

L11 ANSWER 34 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2004:1067788 CAPLUS

DN 142:204407

TI Acid-Base Profiling of Imatinib (Gleevec) and Its Fragments

AU Szakacs, Zoltan; Beni, Szabolcs; Varga, Zoltan; Oerfi, Laszlo; Keri, Gyoergy; Noszal, Bela

CS Department of Inorganic and Analytical Chemistry, Lorand Eoetvoes University, Budapest, H-1117, Hung.

SO Journal of Medicinal Chemistry (2005), 48(1), 249-255 CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society

DT Journal

LA English

OS CASREACT 142:204407

- The site-specific basicities of imatinib (I) (Gleevec, a new signal AΒ transduction inhibitor drug of chronic myeloid leukemia) and two of its fragment compds. were quantitated in terms of protonation macroconstants, microconstants, and group consts. by NMR-pH and pH-potentiometric titrns. Sequential protonation of imatinib follows the N34, N11, N31, N13 order, in which N11 and N31 show commensurable basicity, but negligible intramol. interaction. Fragment compds. include two "halves" of imatinib, and their moiety-specific basicities confirm the NMR-based protonation sequence of the parent compound NMR-pH profiles, macro- and/or microscopic protonation schemes, and species-specific distribution diagrams are presented. On the basis of these data, imatinib is shown to be predominantly neutral, monocationic, and tricationic at intestinal, blood, and gastric pH, resp. The mol. hypotheses on imatinib binding to the Bcr-Abl oncogene fusion protein are interpreted at the site-specific level in view of the moiety basicities of imatinib.
- IT 404844-11-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(acid-base profiling of imatinib (Gleevec) and its fragments)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 35 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2004:1060780 CAPLUS
- DN 142:38275
- TI Preparation of N-phenyl-2-pyrimidine-amine derivatives as anticancer agents and process for the preparation thereof
- IN Kim, Dong-Yeon; Kim, Jae-Gun; Cho, Dae-Jin; Lee, Gong-Yeal; Kim,
  Hong-Youb; Woo, Seok-Hun; Kim, Yong-Seok; Bae, Woo-Chul; Lee, Sun-Ahe;
  Han, Byoung-Cheol
- PA Il Yang Pharm. Co., Ltd., S. Korea
- SO U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Ser. No. 446,446, abandoned.
- CODEN: USXXCO
- DT Patent
- LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
ΡI	US 20040248918	A1	20041209	US 2004-806834	20040322		
PRAI	KR 2003-28669	A	20030506				
	US 2003-446446	B2	20030528				

OS MARPAT 142:38275

The title compds. (I) [R1 = 3- or 4-pyridyl; R2, R3 = H, lower alkyl; R6,AB R7 = Q; wherein X = O, NH; n = 0, 1; R9 = C5-10 9 aliphatic radical, 5- to 7-membered (un)saturated monocyclic radical, or bi- or tricyclic radical optionally combined with benzene ring, each of which has 1 to 3 hetero atoms selected from a group consisting of N, O, and S, piperazinyl or homopiperazinyl each of which is substituted by lower alkyl; R4, R5, R7, R8 = H or one or two thereof each represent halogen, lower alkyl, or lower alkoxy; when R6 is Q, or one or two of R4, R5, R6, and R8 each represent halogen, lower alkyl, or lower alkoxy; when R7 is Q, provided that R6 or R7 represents Q wherein n = 0 and R9 = 4-methylpiperazine, then one or more of R4, R5, R7, and R8, or one or more of R4, R5, R6, and R8 are halogen] or salts thereof are prepared These compds. show a superior effect on lung cancer, gastric cancer, colon cancer, pancreatic cancer, hepatoma, prostatic cancer, breast cancer, chronic or acute leukemia, hematol. malignancy, encephalophyma, bladder cancer, rectal cancer, or cervical cancer of warm-blooded animals. The present invention also relates to a process for preparing the compound I, and to a pharmaceutical composition for

the

treatment of the above various diseases, which comprises an effective amount of the compound as an active ingredient together with pharmaceutically acceptable inert carriers. Thus, 3-dimethylamino-1-(3-pyridyl)-2-propen-1one was cyclocondensed with 2-methyl-5-nitrophenylguanidine nitrate in the presence of sodium hydroxide in isopropanol under reflux for 18 h to give N-(2-methyl-5-nitrophenyl)-4-(3-pyridyl)-2-pyrimidineamine which wasreduced by stannous chloride dihydrate in EtOAc/ethanol under reflux for 4 h to give N-(5-amino-2-methylphenyl)-4-(3-pyridyl)-2-pyrimidineamine (II). II underwent amidation with 4-chloromethylbenzoyl chloride in Et3N in THF under reflux for 4 h to give N-[5-(4-chloromethylbenzoylamino)-2methylphenyl]-4-(3-pyridyl)-2-pyrimdineamine which was stirred with pyridine for 30 min and then refluxed with N-methylhomopiperazine for 12 h to give 4-(4-methylhomopiperazin-1-ylmethyl)-N-[4-methyl-3-[[4-(pyridin-3yl)pyrimidin-2-yl]amino]phenyl]benzamide (III). III methanesulfonate and 4-[(4-methylpiperazin-1-ylamino)methyl]-N-[4-methyl-3-[[4-(pyridin-3yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate showed IC50 of 1.20 and <0.10  $\mu g/mL$ , resp., against the growth of K562 cells.

IT 404844-11-7P, N-[5-[(4-Chloromethylbenzoyl)amino]-2-methylphenyl]-

4-(3-pyridyl)-2-pyrimidineamine 796738-74-4P, N-[4-(4-Chloromethylbenzoylamino)-2-methylphenyl]-4-(3-pyridyl)-2-pyrimidineamine

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of N-phenylpyrimidine-2-amine derivs. as anticancer agents)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-74-4 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

TT 796738-36-8P, 4-(4-Methylhomopiperazin-1-ylmethyl)-N-[3-methyl-4[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide
796738-38-0P, 4-(4-Methylpiperazin-1-ylaminomethyl)-N-[3-methyl-4[4-(pyridin-3-yl)pyrimidin-2-yl]aminophenyl]benzamide 804554-82-3P
, 4-(4-Methylhomopiperazin-1-ylmethyl)-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate
804554-83-4P, 4-[(4-Methylpiperazin-1-ylamino)methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
(Uses)

(preparation of N-phenylpyrimidine-2-amine derivs. as anticancer agents) RN 796738-36-8 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-38-0 CAPLUS

CN Benzamide, 4-[[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 804554-82-3 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 796738-36-8 CMF C30 H33 N7 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 804554-83-4 CAPLUS

CN Benzamide, 4-[[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:1) (CA INDEX NAME)

CM 1

CRN 796738-38-0 CMF C29 H32 N8 O

$$\begin{array}{c} \text{N} \\ \text{$$

CM 2

CRN 75-75-2 CMF C H4 O3 S

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L11 ANSWER 36 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
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AN 2004:996162 CAPLUS

DN 141:424205

TI New N-phenyl-2-pyrimidine-amine derivatives related to imatinib mesylate, useful as antitumor agents, and process for their preparation

IN Kim, Dong-Yeon; Kim, Jae-Gun; Cho, Dae-Jin; Lee, Gong-Yeal; Kim,
Hong-Youb; Woo, Seok-Hun; Kim, Yong-Seok; Bae, Woo-chul; Lee, Sun-Ahe;
Han, Byoung-Cheol

PA Il Yang Pharm. Co. Ltd., S. Korea

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 3

AΒ

L'AIV.	PATENT NO.						D	DATE			APPL	ICAT		DATE					
ΡI	WO	2004099187				A1		20041118		WO 2004-KR611						20040319			
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,	
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,	
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KΖ,	LC,	LK,	
			LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NΙ,	NO,	
			NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY,	ΤJ,	
			TM,	TN,	TR,	TT,	TZ,	UA,	UG,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW			
		RW:	BW,	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	AZ,	
			BY,	KG,	KΖ,	MD,	RU,	ТJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	
			ES,	FI,	FR,	GB,	GR,	HU,	ΙE,	IT,	LU,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	
			SK,	TR,	BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	
			TD,	TG															
	KR 2004095155 RAI KR 2003-28669					Α		20041112 KR 2004-1					-17594 20040316						
PRAI						Α		2003	0506										
00 MARRAM 141 40400E																			

OS MARPAT 141:424205

The invention relates to N-phenyl-2-pyrimidine-amine derivs. and their salts, which show superior action against lung cancer, gastric cancer, colon cancer, pancreatic cancer, hepatoma, prostatic cancer, breast cancer, chronic or acute leukemia, hematol. malignancy, encephalophyma, bladder cancer, rectal cancer, or cervical cancer, etc., in warm-blooded animals. The invention also relates to a process for preparing the compds., and to pharmaceutical compns. for the treatment of cancer, etc., which comprise the compds. as active ingredients, together with pharmaceutically acceptable inert carriers. Specifically claimed are compds. I and salts [wherein: R1 = 3-pyridyl or 4-pyridyl; R2, R3 = (independently) H or lower alkyl; R6 or R7 = -NHCO-p-C6H4-CH2XnR9; X = O or NH; n = 0-1; R9 = C5-10aliphatic, or 5- to 7-membered (un)saturated monocycle, or a bi- or tricyclic radical optionally combined with a benzene ring, each with 1-3 N/O/S heteroatoms, or (homo)piperazinyl substituted by lower alkyl; 1-2 of R4, R5, R6/R7, and R8 = halo, lower alkyl, or lower alkoxy; others = H; provided that when R6 or R7 = said radical and n = 0 and R9 = 4-methylpiperazinyl, then one or more of R4, R5, R6/R7, and R8 is halo]. For example, 3-acetylpyridine was converted in 3 steps to N-(2-methyl-5-nitrophenyl)-4-(3-pyridyl)-2-pyrimidineamine. This nitro compound was reduced to the amine with SnCl2, and the amine was amidated with 4-(C1CH2)C6H4COC1. The obtained 4-(chloromethyl)benzamide derivative was coupled with 1-amino-4-methylpiperazine to give invention compound II, which was converted to the methanesulfonate salt (III). The latter was more than 5-fold more potent than imatinib mesylate against the human CML cell line K562, and was at least as active against other cell lines. Other compds. I showed different spectra of superiority to imatinib mesylate

against the various cancer cell lines. Compound IV (mesylate) had excellent, dose-related therapeutic activity against sarcoma-180 in ICR mice, giving an inhibition ratio of 63.0% at 50 mg/kg i.v. In an oral pharmacokinetic assay in rats, III roughly matched the performance of imatinib mesylate (Tmax, Cmax, and AUC) at half the dosage. III also showed no acute toxicity toward mice at a dose of 2000 mg/kg orally. IV mesylate had an i.v. LD50 of 75-100 mg/kg in mice, still much safer than cisplatin (11 mg/kg i.v.). Although several compds. I are preferred with respect to protein kinase inhibition (no data), II is particularly preferred. Therefore III and IV mesylate are expected to be new and potent therapeutic agents for the treatment of the aforementioned cancers, in addition to CML.

TT 796738-36-8P, 4-[(4-Methylhomopiperazin-1-yl)methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide 796738-38-0P, 4-[[(4-Methylpiperazin-1-yl)amino]methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(drug candidate; preparation of phenylpyrimidinamine derivs. related to imatinib mesylate as antitumor agents)

RN 796738-36-8 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-38-0 CAPLUS

CN Benzamide, 4-[[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

IT 796738-37-9P, 4-[(4-Methylhomopiperazin-1-yl)methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate 796738-39-1P, 4-[[(4-Methylpiperazin-1-yl)amino]methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of phenylpyrimidinamine derivs. related to imatinib mesylate as antitumor agents)

RN 796738-37-9 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 796738-36-8 CMF C30 H33 N7 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 796738-39-1 CAPLUS

CN Benzamide, 4-[[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 796738-38-0 CMF C29 H32 N8 O

$$\begin{array}{c} \text{Me} \\ \text{NH} \\$$

CM 2

CRN 75-75-2 CMF C H4 O3 S

IT 404844-11-7P, N-[5-[[4-(Chloromethyl)benzoyl]amino]-2 methylphenyl]-4-(3-pyridyl)-2-pyrimidineamine 796738-74-4P,
 N-[4-[[4-(Chloromethyl)benzoyl]amino]-2-methylphenyl]-4-(3-pyridyl)-2 pyrimidineamine
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (intermediate; preparation of phenylpyrimidinamine derivs. related to
 imatinib mesylate as antitumor agents)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-74-4 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 37 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
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AN 2004:996161 CAPLUS

DN 141:424204

- TI New N-phenyl-2-pyrimidine-amine derivatives related to imatinib mesylate, useful as antitumor agents, and process for the preparation thereof
- IN Kim, Dong-Yeon; Kim, Jae-Gun; Cho, Dae-Jn; Lee, Gong-Yeal; Kim, Hong-Youb; Woo, Seok-Hun; Bae, Woo-chul; Lee, Sun-Ahe; Han, Byoung-Ceol
- PA Il Yang Pharm Co., Ltd., S. Korea
- SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN. CNT 3

FAN.CNT 3																			
	PATENT NO.					KIND DATE					APPL	ICAT:		DATE					
ΡI	WO 2004099186				A1	_	20041118		WO 2003-KR1029						20030526				
	W: AE, AG, AL,		AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,				
						•		DK,	•	•							•	•	
			•			•	•	IN,	•	•	•	•	•	•	•	•	•	•	
	LT, LU, LV,					•		•	•	•	•				•				
			PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	ΤJ,	TM,	TN,	TR,	TT,	TZ,	
			UA,	UG,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW	,	,		,		·	•	
		RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	AZ,	BY,	
			KG,	KΖ,	MD,	RU,	ΤJ,	TM,	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	
			FΙ,	FR,	GB,	GR,	HU,	IE,	IT,	LU,	MC,	NL,	PT,	RO,	SE,	SI,	SK,	TR,	
			BF,	ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG	
	ΑU	2003	2326	50		A1		2004	1126	AU 2003-232650									
	KR	KR 2004095155			A		20041112			KR 2	004-	1759	20040316						
PRAI	KR	2003	-28669 A 2				20030506												
	WO	2003	-KR1	029		W 20030526													
OS	MAI	RPAT	141:	4242	04														

The invention relates to N-phenyl-2-pyrimidine-amine derivs. and their AB salts, which show superior action against tumors, lung cancer, gastric cancer, etc., in warm-blooded animals. The invention also relates to a process for preparing the compds., and to pharmaceutical compns. for the prevention and treatment of cancer, etc., which comprise the compds. as active ingredients. Specifically claimed are compds. I and salts [wherein: R1 = 3-pyridyl or 4-pyridyl; R2, R3 = (independently) H or lower alkyl; R6 or R7 = -NHCO-p-C6H4-CH2XnR9; X = O or NH; n = 0-1; R9 = C5+ aliphatic or heterocycle, or (homo)piperazinyl substituted by lower alkyl; 1-2 of R4, R5, R6/R7, and R8 = halo, lower alkyl, or lower alkoxy; others = H; provided that when R6 or R7 = said radical and n = 0 and R9 = 4-methylpiperazinyl, then one or more of R4, R5, R6/R7, and R8 is halo]. For example, 3-acetylpyridine was converted in 3 steps to N-(2-methyl-5-nitrophenyl)-4-(3-pyridyl)-2-pyrimidineamine. This nitro compound was reduced to the amine with SnCl2, and the amine was amidated with 4-(C1CH2)C6H4COCl. The obtained 4-(chloromethyl)benzamide derivative was coupled with 1-amino-4-methylpiperazine to give invention compound II, which was converted to the methanesulfonate salt (III). The latter was more than 5-fold more potent than imatinib mesylate against the human CML cell line K562, and was at least as active against other cell lines. Other compds. I showed different spectra of superiority to imatinib mesylate against the various cancer cell lines. In an oral pharmacokinetic assay in rats, III roughly matched the performance of imatinib mesylate (Tmax, Cmax, and AUC) at half the dosage. III also showed no acute toxicity toward mice at a dose of 2000 mg/kg orally. Although several compds. I are preferred with respect to protein kinase inhibition (no data), II is

particularly preferred.

TT 796738-36-8P, 4-[(4-Methylhomopiperazin-1-yl)methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide 796738-38-0P, 4-[[(4-Methylpiperazin-1-yl)amino]methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(drug candidate; preparation of phenylpyrimidinamine derivs. related to imatinib mesylate as antitumor agents)

RN 796738-36-8 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-38-0 CAPLUS

CN Benzamide, 4-[[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

TT 796738-37-9P, 4-[(4-Methylhomopiperazin-1-yl)methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate 796738-39-1P, 4-[[(4-Methylpiperazin-1-yl)amino]methyl]-N-[3-methyl-4-[[4-(pyridin-3-yl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of phenylpyrimidinamine derivs. related to imatinib mesylate as antitumor agents)

RN 796738-37-9 CAPLUS

CN Benzamide, 4-[(hexahydro-4-methyl-1H-1,4-diazepin-1-yl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 796738-36-8 CMF C30 H33 N7 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 796738-39-1 CAPLUS

CN Benzamide, 4-[(4-methyl-1-piperazinyl)amino]methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 796738-38-0 CMF C29 H32 N8 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

IT 404844-11-7P, N-[5-[[4-(Chloromethyl)benzoyl]amino]-2-methylphenyl]-4-(3-pyridyl)-2-pyrimidineamine 796738-74-4P, N-[4-[[4-(Chloromethyl)benzoyl]amino]-2-methylphenyl]-4-(3-pyridyl)-2-pyrimidineamine

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of phenylpyrimidinamine derivs. related to imatinib mesylate as antitumor agents)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 796738-74-4 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 38 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
AN
    2004:964826 CAPLUS
    141:410958
DΝ
    Preparation of 2-phenylaminopyrimidine derivatives as tyrosine kinase
ΤI
    inhibitors for treatment of cancers
ΙN
    Chen, Guoging P.
PA
    USA
SO
    U.S. Pat. Appl. Publ., 25 pp.
    CODEN: USXXCO
DT
    Patent
LA
    English
FAN.CNT 1
    PATENT NO.
                       KIND
                               DATE
                                          APPLICATION NO.
                                                                 DATE
                        ____
                                           _____
    US 20040224967
                                           US 2004-821382
                                                                  20040409
                        A1
                               20041111
PI
    US 7232825
                         В2
                               20070619
PRAI US 2003-466883P
                        Ρ
                               20030502
    MARPAT 141:410958
OS
AB
    The present invention relates to phenylaminopyrimidine derivs. (I) [X = 0,
    S; Y = a direct bond, O, N, lower alkyl; Z = an aliphatic, cycloaliph., aryl
    or a heterocyclyl radical; R1 = heterocyclyl; R2 = H, halogen, halo-lower
    alkyl, lower alkyl, lower alkoxy; R3 = H, lower alkyl; R4 = oxy-lower
    alkylamino, lower alkoxy-lower alkylamino, oxyheterocyclyl, lower alkyl
    oxyheterocyclyl, oxy-lower alkylheterocyclyl, lower alkyl oxy-lower
    alkylheterocyclyl, halo-lower alkylamino, halo-lower alkylheterocyclyl,
    amino-lower alkylamino, lower alkylamino lower alkylamino,
    aminoheterocyclyl, lower alkylaminoheterocyclyl, amino-lower
    alkylheterocyclyl, lower alkylamino-lower alkylheterocyclyl] or
    pharmaceutically acceptable salts thereof, processes for their preparation,
    pharmaceutical compns. containing them as active ingredient, methods for the
    treatment of disease states such as cancers associated with tyrosine kinases,
    especially Bcr-Abl, to their use as medicaments and to their use in the
manufacture
    of medicaments for use in the production of inhibition of tyrosine kinase
    reducing effects in warm-blooded animals such as humans. Thus, Mitsunobu
    reaction of N-(tert-butoxycarbonyl)aminoethanol and
    4-hydroxy-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-
    vl]amino]phenyl]benzamide in CH2Cl2 at room temperature for 4 h gave
    4-[2-(tert-butoxycarbonylamino)ethoxy]-N-[4-methyl-3-[[4-(3-
    pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide which was treated with 4 N
    HCl/dioxane, evaporated, mixed with NaHCO3, and extracted with EtOAc to give
    4-(2-aminoethoxy)-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-
    yl]amino]phenyl]benzamide. No biol. data for the compds. I were given.
    623900-99-2P, 4-Nitro-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-
ΤТ
    yl]amino]phenyl]benzamide 791609-55-7P,
    4-Hydroxy-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-
    vllamino]phenyl]benzamide 791609-57-9P,
    4-[2-(tert-Butoxycarbonylamino)ethoxy]-N-[4-methyl-3-[[4-(3-
    pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-83-1P,
     4-(Aminomethyl)-N-[4-methyl-3-[4-(3-pyridyl)pyrimidin-2-
    yl]amino]phenyl]benzamide
    RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (intermediate; preparation of 2-phenylaminopyrimidine derivs. as tyrosine
       kinase inhibitors for treatment of cancers)
RN
    623900-99-2 CAPLUS
    Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-
CN
```

nitro- (CA INDEX NAME)

$$\begin{array}{c|c} O \\ \hline C - NH \\ \hline \end{array}$$

RN 791609-55-7 CAPLUS

CN Benzamide, 4-hydroxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-57-9 CAPLUS

CN Carbamic acid, [2-[4-[[[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]amino]carbonyl]phenoxy]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

$$\begin{array}{c} O \\ O \\ C \\ NH \\ C \\ NH \\ N \end{array}$$

RN 791609-83-1 CAPLUS

CN Benzamide, 4-(aminomethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & \circ & \\ \hline & C-NH & NH & N\\ \hline & NH & N & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & N\\ \hline & NH & NH & NH & NH & N\\ \hline & NH & NH & NH & NH & N\\ \hline & NH & NH & NH & NH & NH & N\\ \hline & NH & NH & NH & NH & NH & NH \\ \hline & NH & NH & NH & NH & NH \\ \hline & NH & NH & NH & NH & NH \\ \hline & NH & NH & NH & NH \\ \hline & NH & NH & NH & NH \\ \hline & NH & NH & NH & NH \\ \hline & NH & NH \\ \hline & NH & NH & NH \\ \hline &$$

TT 791609-56-8P, 4-(2-Aminoethoxy)-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-65-9P,
4-(Aminofluoromethyl)-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-67-1P,
4-(Aminodifluoromethyl)-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-71-7P,

pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-74-0P, 4-[[[2-(Dimethylamino)ethyl]amino]difluoromethyl]-N-[4-methyl-3-[[4-(3pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide 791609-87-5P,  $4-(2-A\min\text{oethoxy})-N-[4-\text{methyl}-3-[[4-(3-\text{pyridyl})\text{pyrimidin}-2$ yl]amino]phenyl]benzamide methanesulfonate 791609-92-2P, 4-(Aminofluoromethyl)-N-[4-methyl-3-[4-(3-pyridyl)pyrimidin-2yl]amino]phenyl]benzamide methanesulfonate 791609-94-4P, 4-(Aminodifluoromethyl)-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2yl]amino]phenyl]benzamide methanesulfonate 791609-98-8P, pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate 791610-01-0P, 4-[[[2-(Dimethylamino)ethyl]amino]difluoromethyl]-N-[4-methyl-3-[[4-(3-pyridyl)pyrimidin-2-yl]amino]phenyl]benzamide methanesulfonate RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(Uses)

(preparation of 2-phenylaminopyrimidine derivs. as tyrosine kinase inhibitors for treatment of cancers)

791609-56-8 CAPLUS RN

CN Benzamide, 4-(2-aminoethoxy)-N-[4-methyl-3-[[4-(3-pyridinyl)-2pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-65-9 CAPLUS

CN Benzamide, 4-(aminofluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-67-1 CAPLUS

Benzamide, 4-(aminodifluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-CN pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-71-7 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]fluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-74-0 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]difluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 791609-87-5 CAPLUS

CN Benzamide, 4-(2-aminoethoxy)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 791609-56-8 CMF C25 H24 N6 O2

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 791609-92-2 CAPLUS

CN Benzamide, 4-(aminofluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 791609-65-9 CMF C24 H21 F N6 O

$$\begin{array}{c|c} & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array}$$

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 791609-94-4 CAPLUS

CN Benzamide, 4-(aminodifluoromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 791609-67-1 CMF C24 H20 F2 N6 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 791609-98-8 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]fluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 791609-71-7 CMF C28 H30 F N7 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RN 791610-01-0 CAPLUS

CN Benzamide, 4-[[[2-(dimethylamino)ethyl]amino]difluoromethyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, methanesulfonate (1:?) (CA INDEX NAME)

CM 1

CRN 791609-74-0 CMF C28 H29 F2 N7 O

CM 2

CRN 75-75-2 CMF C H4 O3 S

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

## 10/560,352

L11 ANSWER 39 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2004:954402 CAPLUS

DN 142:147823

TI Efficient optimization strategy for marginal hits active against abl tyrosine kinases

AU Tkachenko, Sergey E.; Okun, Ilya; Balakin, Konstantin V.; Petersen, Charles E.; Ivanenkov, Yan A.; Savchuk, Nikolay P.; Ivashchenko, Andrey A.

CS Chemical Diversity Labs, Inc., San Diego, SA, 92121, USA

SO Current Drug Discovery Technologies (2004), 1(3), 201-210 CODEN: CDDTAF; ISSN: 1570-1638

PB Bentham Science Publishers Ltd.

DT Journal

LA English

AB Primary high-throughput screening of com. available small mols. collections often results in hit compds. with unfavorable ADME/Tox properties and low IP potential. These issues are addressed empirically at follow-up lead development and optimization stages. In this work, we describe a rational approach to the optimization of hit compds. discovered during screening of a kinase focused library against abl tyrosine kinase. The optimization strategy involved application of modern chemoinformatics techniques, such as automatic bioisosteric transformation of the initial hits, efficient solution-phase combinatorial synthesis, and advanced methods of knowledge-based libraries design.

IT 152459-94-4, CGP-53716

RL: BSU (Biological study, unclassified); BIOL (Biological study) (efficient optimization strategy for marginal hits active against abl tyrosine kinases)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 40 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
      2004:589375 CAPLUS
ΑN
DN
      141:140459
      Preparation of sulfamides as anti-cancer agents
ΤI
IN
      Flynn, Daniel L.; Petrillo, Peter A.
PA
      Deciphera Pharmaceuticals, Inc., USA
SO
      PCT Int. Appl., 168 pp.
      CODEN: PIXXD2
DT
      Patent
      English
LA
FAN.CNT 10
      PATENT NO.
                            KIND
                                      DATE
                                                   APPLICATION NO.
                                                                               DATE
                            ____
                                      _____
                                                    ______
      WO 2004060305
                             A2
                                      20040722
                                                   WO 2003-US41425
                                                                               20031226
PΙ
                             A3
      WO 2004060305
                                      20050210
              AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
           W:
               CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
               GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
          LS, LI, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
      US 20040176395
                        A1
                                      20040909
                                                  US 2003-746607
                                                                               20031224
                              В2
      US 7279576
                                      20071009
                                                    CA 2003-2511840
                             A1
      CA 2511840
                                      20040722
                                                                                20031226
                                                    AU 2003-303639
                             A1
      AU 2003303639
                                      20040729
                                                                                20031226
                              A2
                                     20051102
                                                 EP 2003-814980
      EP 1590344
                                                                                20031226
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
               IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
      BR 2003017863
                          A
                                    20051206 BR 2003-17863
                                                                                20031226
      CN 1756849
                             Α
                                      20060405
                                                    CN 2003-80110049
                                                                                20031226
                             A
      CN 1791596
                                     20060621
                                                    CN 2003-80110048
                                                                               20031226
JP 2006519765 T 20060831
IN 2005CN01433 A 20070302
MX 2005007237 A 20071115
US 20090069310 A1 20090312
PRAI US 2002-437304P P 20021231
                                                 JP 2005-508623
                                                                               20031226
                                                   IN 2005-CN1433
                                                                               20050628
                                                   MX 2005-7237
                                                                               20050630
                                                   US 2006-450852
                                                                               20060609
                                   20021231
      US 2002-437403P
                             P
                                    20021231
                             Р
                                    20021231
      US 2002-437415P
                           P
P
      US 2002-437487P
                                    20021231
      US 2003-463804P
                                     20030418
                             Ρ
      US 2003-437804P
                                     20030103
                             A1
      US 2003-746460
                                     20031224
                             A
      US 2003-746545
                                     20031224
      US 2003-746607
                              Α
                                      20031224
      WO 2003-US41425
                              W
                                      20031226
OS
      MARPAT 141:140459
AΒ
      Sulfamides, such as I, were prepared for use as anticancer agents which act
      by modulating the activation states of abl or bcr-abl \alpha-kinase
      proteins. Thus, 4-HO2CC6H4CH2NHSO2NHCOR [R = pyrrolidino], prepared from
      4-MeO2CC6H4CH2NH2 and pyrrolidine, was treated with the
      pyrimidinylaminoaniline fragment to give I, which showed 10% inhibition of
      non-phosphorylated abl kinase at 10\,\mu\text{M}.
```

ΙT

726192-42-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of sulfamides as anti-cancer agents)

RN 726192-42-3 CAPLUS

CN 1,4-Benzenedicarboxamide, N1,N1-bis[2-(methylamino)-2-oxoethyl]-N4-[4-methyl-3-[(4-phenyl-2-pyrimidinyl)amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & &$$

IT 726192-76-3P 726192-77-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of sulfamides as anti-cancer agents)

RN 726192-76-3 CAPLUS

CN Benzamide, 4-(hydroxymethyl)-N-[4-methyl-3-[(4-phenyl-2-pyrimidinyl)amino]phenyl]- (CA INDEX NAME)

RN 726192-77-4 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[(4-phenyl-2-pyrimidinyl)amino]phenyl]- (CA INDEX NAME)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 41 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2004:533970 CAPLUS
ΑN
     141:65088
DN
     Methods and compositions for the prevention or treatment of neoplasia
ΤI
     comprising a COX-2 inhibitor in combination with an epidermal growth
     factor receptor antagonist
IN
     Masferrer, Jaime
     Pharmacia Corporation, USA
PA
     U.S. Pat. Appl. Publ., 103 pp., Cont.-in-part of U.S. Ser. No. 470,951.
     CODEN: USXXCO
DT
     Patent
T.A
     English
FAN.CNT 21
                                           APPLICATION NO.
     PATENT NO.
                       KIND
                                DATE
                                                                   DATE
                        ____
     _____
                               _____
                                           _____
                                                                  _____
                                          US 2003-651916
     US 20040127470
                        A1
                                20040701
                                                                   20030829
РΤ
                         A1
     EP 1522313
                                          EP 2004-26577
                                20050413
                                                                   19991222
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI, RO, CY
     AU 2004201161
                         Α1
                                20040422
                                           AU 2004-201161
                                                                   20040319
     AU 2004201161
                         В2
                                20060209
     WO 2005037259
                         Α2
                                20050428
                                            WO 2004-US27574
                                                                   20040825
     WO 2005037259
                         А3
                               20050804
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
            CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
            LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
                                           AU 2004-210578
     AU 2004210578
                        A1
                               20041007
                                                                   20040910
PRAI US 1998-113786P
                        Ρ
                               19981223
     US 1999-470951
                        В2
                               19991222
     US 1999-385214
                               19990827
                        A
     AU 2000-25936
                        A3
                              19991222
     AU 2000-27134
                        A3
                              19991222
     EP 1999-968939
                        A3
                               19991222
                        A
     US 2003-651916
                               20030829
     The present invention relates to a novel method of preventing and/or
AB
     treating neoplasia disorders in a subject that is in need of such
     prevention or treatment by administering to the subject at least one COX-2
     inhibitor in combination with an EGF receptor antagonist. Compns.,
     pharmaceutical compns. and kits are also described.
     152459-94-4, CGP-53716
IT
     RL: BSU (Biological study, unclassified); PAC (Pharmacological activity);
     THU (Therapeutic use); BIOL (Biological study); USES (Uses)
        (as EGFR antagonist; COX-2 inhibitor in combination with epidermal
        growth factor receptor antagonist for prevention or treatment of
        neoplasia)
     152459-94-4 CAPLUS
RN
CN
     Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-
```

(CA INDEX NAME)

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L11 ANSWER 42 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
AN
     2004:287838 CAPLUS
     140:321373
DN
     Preparation of novel pyrimidine amides as protein kinase inhibitors
ΤI
IN
     Mankeym Raul William; Breitenstein, Werner; Jacob, Sandra; Furet, Pascal
PA
     Novartis Ag, Switz.; Novartis Pharma GmbH
SO
     PCI Int. Appl., 57 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 1
     PATENT NO.
                          KIND
                                  DATE
                                               APPLICATION NO.
                                                                       DATE
                                               _____
                          ____
                                 20040408
                                             WO 2003-EP10724
                                                                       20030926
                                                                                   no 102(a) or (e)
PΙ
     WO 2004029038
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         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
                                                                                   date
                                                                             C.N.
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT,
             LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PG, PH, PL, PT, RO,
             RU, SC, SE, SG, SK, SY, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN,
             YU, ZA, ZW
         RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
              SI, SK, TR
     CA 2499822
                                  20040408
                                               CA 2003-2499822
                                                                        20030926
                           Α1
     AU 2003270277
                                  20040419
                                               AU 2003-270277
                           Α1
                                                                        20030926
     AU 2003270277
                           В2
                                  20070823
     EP 1546127
                           Α1
                                  20050629
                                               EP 2003-750639
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                           В1
     EP 1546127
                                  20070808
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                                  20050726
                                             BR 2003-14797
     BR 2003014797
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                                                                       20030926
     CN 1684951
                           Α
                                  20051019
                                               CN 2003-823213
                                                                       20030926
     CN 100404528
                           С
                                  20080723
     JP 2006508064
                          Τ
                                  20060309
                                               JP 2004-539039
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     AT 369355
                                  20070815
                                               AT 2003-750639
     ES 2288615
                          Т3
                                  20080116
                                               ES 2003-750639
                                                                       20030926
     NZ 538930
                                  20080430
                                               NZ 2003-538930
                           Α
                                                                       20030926
                                               ZA 2005-2304
     ZA 2005002304
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                                  20060426
                                                                       20050318
     MX 2005003253
                           Α
                                 20050608
                                               MX 2005-3253
                                                                       20050323
     IN 2005CN00464
                                 20070406
                                               IN 2005-CN464
                           Α
                                                                       20050323
     KR 876055
                           B1
                                 20081226
                                               KR 2005-705204
                                                                       20050325
     NO 2005001966
                           Α
                                  20050422
                                               NO 2005-1966
                                                                       20050422
     HK 1080459
                           Α1
                                  20080215
                                               HK 2005-111972
                                                                       20051223
     US 20060142577
                                             US 2006-528913
                                                                  ODP 20060105
                           Α1
                                  20060629
                                               KR 2007-719251
     KR 2007098940
                           Α
                                  20071005
                                                                       20070823
     IN 2007CN04330
                                               IN 2007-CN4330
                                                                        20071001
                           Α
                                  20080125
PRAI GB 2002-22514
                           Α
                                  20020927
     WO 2003-EP10724
                           W
                                  20030926
     IN 2005-CN464
                           А3
                                  20050323
     KR 2005-705204
                           А3
                                  20050325
OS
     MARPAT 140:321373
     The title substituted N-(3-benzoylaminophenyl)-4-pyridyl-2-pyrimidinamines
AΒ
     [I; R1 = H and R2 = NR5R6, or R1 = NR5R6 and R2 = H; R3 = alkyl,
     fluoroalkyl, hydroxyalkyl, carbamoyl; R4 = H, alkyl, halo; R5 and R6 = H,
     alkyl, hydroxyalkyl, etc. or NR5R6 = (un) substituted (un) saturated 5-7
```

а

membered ring optionally containing heteroatoms], useful for the therapy of a disease which responds to an inhibition of protein kinase activity, especially

neoplastic disease (e.g., leukemia), were prepared and formulated. Thus, amidation of 4-methyl-N-[4-(3-pyridinyl)-2-pyrimidinyl]-1,3-benzenediamine with 4-diethylamino-3-(trifluoromethyl)benzoic acid (preparation given) afforded I [R1 = H; R2 = NEt2; R3 = CF3; R4 = Me] which showed IC50 of 50-100 nM against c-Abl and IC50 of 200-500 nM against Bcr-Abl (in vitro inhibition data).

IT 677704-35-7P 677704-49-3P 677704-51-7P 677704-52-8P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel N-[3-(pyrimidin-2-ylamino)phenyl] benzamides as protein kinase inhibitors)

RN 677704-35-7 CAPLUS

CN Benzamide, 4-(diethylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 677704-49-3 CAPLUS

CN Benzamide, 4-[[2-(dimethylamino)ethyl]methylamino]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-3-(trifluoromethyl)- (CA INDEX NAME)

RN 677704-51-7 CAPLUS

CN Benzamide, 3-(ethylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-5-(trifluoromethyl)- (CA INDEX NAME)

RN 677704-52-8 CAPLUS

CN Benzamide, 3-(acetylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-5-(trifluoromethyl)- (CA INDEX NAME)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 43 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2004:20664 CAPLUS
ΑN
DN
     140:77165
     Preparation of 4-[(4-methylpiperazin-1-yl)methyl]benzamide for treatment
ΤI
     of leukemia
ΙN
     Asaki, Tetsuo; Hamamoto, Taisuke; Suqiyama, Yukiteru
PA
     Nippon Shinyaku Co., Ltd., Japan
SO
     PCT Int. Appl., 102 pp.
     CODEN: PIXXD2
     Patent
DT
LA (Japanese)
FAN.CNT"I
                                   DATE
     PATENT NO.
                           KIND
                                                APPLICATION NO.
                                                                         DATE
                                                _____
                           ____
                                                )WO 2003-JP8192
     WO 2004002963
                                   20040108
                                                                          20030627
PI
                            A1
         W: AE, AG, AL, AM, AT, AU, AZ, BÁ, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DR, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
              GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
              LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CA 2490907
                            Α1
                                   20040108
                                              CA 2003-2490907
                                                                          20030627
     AU 2003246100
                            Α1
                                   20040119
                                                AU 2003-246100
                                                                          20030627
     BR 2003012288
                                   20050412
                                                BR 2003-12288
                                                                          20030627
                            Α
     EP 1533304
                            Α1
                                   20050525
                                                EP 2003-738555
                                                                          20030627
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
              IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                                                CN 2003-820146
                                                                          20030627
     CN 1678590
                            Α
                                   20051005
     CN 100343237
                            С
                                   20071017
     RU 2315043
                            C2
                                   20080120
                                                RU 2005-102098
                                                                          20030627
     MX 2004012845
                            Α
                                   20050224
                                                MX 2004-12845
                                                                          20041216
     US 20060014742
                                   20060119
                                                US 2004-519722
                                                                          20041228
                            Α1
     US 7494997
                            В2
                                   20090224
PRAI JP 2002-189269
                            Α
                                   20020628
     JP 2002-305146
                            Α
                                   20021018
     JP 2002-377937
                            Α
                                   20021226
     WO 2003-JP8192
                            W
                                   20030627
OS
     MARPAT 140:77165
     The title compds. I [wherein R1 = saturate cyclic amino, alkylamino, or
AB
     dialkylamino; R2 = alkyl, halo, haloalkyl, hydroxyalkyl, alkoxy,
     alkoxyalkyl, alkoxycarbonyl, acyl, amino, alkylamino, dialkylamino, NO2,
     carbamoyl, alkylcarbamoyl, dialkylcarbamoyl, or CN; R3 = H, halo, or
     alkoxy; Het1 = pyridyl, Ph, pyrimidyl, pyrazinyl, or triazinyl; Het2 =
     pyridyl, pyrimidyl, pyrazinyl, pyridazinyl, or 1,2-dihydropyridazinyl;
     etc.] or salts thereof are prepared as BCR-ABL tyrosine kinase inhibitors,
     and are useful for the treatment of leukemia (no data). For example, the
     compound II was prepared in a multi-step synthesis. II showed inhibitory
     activities with IC50 of 0.0008 and 3.99 \mu\text{M} against cell proliferation
     of K562 and U937, resp., in cow. Formulations containing I as an active
     ingredient were also described.
     641615-11-4P 641615-12-5P
ΙT
     RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
```

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(Uses)

(drug candidate; preparation of [(piperazinyl)methyl]benzamides for treatment of leukemia)

RN 641615-11-4 CAPLUS

CN Benzamide, 3-bromo-4-[(dimethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 641615-12-5 CAPLUS

CN Benzamide, 3-bromo-4-[(diethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

# 10/560,352

L11 ANSWER 44 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2003:738968 CAPLUS

DN 139:358017

TI Kinases, Homology Models, and High Throughput Docking

AU Diller, David J.; Li, Rixin

CS Pharmacopeia, Inc., Princeton, NJ, 08543-5350, USA

SO Journal of Medicinal Chemistry (2003), 46(22), 4638-4647 CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society

DT Journal

LA English

AB With the many protein sequences coming from the genome sequencing projects, it is unlikely that the authors will ever have an atomic resolution structure of every relevant protein. With high throughput crystallog., however, the authors will soon have representative structures for the vast majority of protein families. Thus the drug discovery and design process will rely heavily on protein modeling to address issues such as designing combinatorial libraries for an entire class of targets and engineering genome-wide selectivity over a target class. In this study the authors assess the value of high throughput docking into homol. models. To do this the authors dock a database of random compds. seeded with known inhibitors into homol. models of six different kinases. In five of the six cases the known inhibitors were enriched by factors of 4-5 in the top 5% of the overall scored and ranked compds. Furthermore, in the same five cases the known inhibitors were enriched by factors of 2-3 in the top 5% of the scored and ranked known kinase inhibitors, thus showing that the homol. models can pick up some of the crucial selectivity information. 152459-94-4D, derivs. TΤ

RL: PAC (Pharmacological activity); PRP (Properties); BIOL (Biological study)

(protein kinases and homol. models and high throughput docking in relation to drug discovery and design)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

RE.CNT 76 THERE ARE 76 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

# 10/560,352

- L11 ANSWER 45 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2003:689661 CAPLUS
- DN 139:374254
- TI Synthesis of pyrimidinopyridine-triazene conjugates targeted to abl tyrosine kinase
- AU Rachid, Zakaria; Katsoulas, Athanasia; Brahimi, Fouad; Jean-Claude, Bertrand Jacques
- CS Department of Medicine, Division of Medical Oncology, Cancer Drug Research Laboratory, McGill University/Royal Victoria Hospital, Montreal, QC, 687, Can.
- SO Bioorganic & Medicinal Chemistry Letters (2003), 13(19), 3297-3300 CODEN: BMCLE8; ISSN: 0960-894X
- PB Elsevier Science B.V.
- DT Journal
- LA English
- OS CASREACT 139:374254
- AB The synthesis and abl tyrosine kinase inhibitory activities of alkyltriazenes conjugated to phenylaminopyrimidines are described. Significant abl inhibitory activities were observed only when a benzamido spacer was inserted between the 1,2,3-triazene chain and the 2-phenyaminopyridopyrimidine moiety.
- IT 623901-01-9P
  RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(synthesis of pyrimidinopyridine-triazene conjugates targeted to abl tyrosine kinase and cytotoxicity structure activity)

- RN 623901-01-9 CAPLUS
- CN Benzamide, 4-amino-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- IT 623901-03-1P 623901-04-2P 623901-05-3P
  - RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(synthesis of pyrimidinopyridine-triazene conjugates targeted to abl tyrosine kinase and cytotoxicity structure activity)

- RN 623901-03-1 CAPLUS
- CN Benzamide, 4-(3,3-dimethyl-1-triazen-1-yl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 623901-04-2 CAPLUS

CN Benzamide, 4-[3-(hydroxymethyl)-3-methyl-1-triazenyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 623901-05-3 CAPLUS

CN Benzamide, 4-[3-(2-chloroethyl)-3-methyl-1-triazen-1-yl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c|c} & & & & \\ & & & \\ \text{Me} & & & \\ & & & \\ \text{C1CH}_2-\text{CH}_2-\text{N-N} & \text{N} \\ \end{array}$$

IT 623900-99-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(synthesis of pyrimidinopyridine-triazene conjugates targeted to abl tyrosine kinase and cytotoxicity structure activity)

RN 623900-99-2 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-nitro- (CA INDEX NAME)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 46 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
AN
      2003:633685 CAPLUS
      139:180080
DN
      Preparation of N-(pyridin-3-ylpyrimidin-2-ylaminophenyl)benzamide
ΤI
      derivatives
IN
      Loiseleur, Olivier; Kaufmann, Daniel; Abel, Stephan; Buerger, Hans
      Michael, Mersenbach, Mark; Schmitz, Beat; Sedelmeier, Gottfried
PA (Novartis A.-G., Switz); Novartis Pharma G.m.b.H.
      PCI Int Appl., 38 pp.
      CODEN: PIXXD2
                                                    common assignee
DT
      Patent
LA
      English
FAN.CNT 1
                              KIND
                                                     APPLICATION NO.
      PATENT NO.
                                         DATE
                                                                                     DATE
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      WO 2003066613
                               A1 20030814 WO 2003-EP1188 20030206
РΤ
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           CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SE, SG, SK, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
                SK, TR
                                A1
                                         20030814
                                                        CA 2003-2474738
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      CA 2474738
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      AU 2003244444
                                         20030902
                                                                                       20030206
                               A1
      AU 2003244444
                                         20030902
                               В2
      AU 2003244444
                                         20070809
      EP 1474408
                                A1 20041110
                                                       EP 2003-737319
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           R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
      BR 2003007529 A 20041221 BR 2003-7529 20030206
     CN 1630648 A 20050622 CN 2003-803556
CN 100347162 C 20071107
JP 2005528340 T 20050922 JP 2003-565987
NZ 534315 A 20070629 NZ 2003-534315
CN 101016262 A 20070815 CN 2007-10086009
NZ 554430 A 20080829 NZ 2003-554430
IN 2004CN01716 A 20060224 IN 2004-CN1716
MX 2004007642 A 20041110 MX 2004-7642
NO 2004003685 A 20041105 NO 2004-3685
US 7456283 B2 20081125
                               A
                                                        CN 2003-803556
                                                                                       20030206
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      US 7456283 no ODP B2 20081125
ZA 2004U05970 A 20060531
                          A1
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                                     20070816
      AU 2007203462
                                                       AU 2007-203462
                                                                                      20070725
      AU 2007203463
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                                                        AU 2007-203463
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A1
A1
      US 20070293673
                                        20071220
                                                        US 2007-845924
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                                       20071220
      US 20070293504
                                                        US 2007-845934
                                                                                      20070828
                                                        US 2007-845946
IN 2007-CN4593
                                        20071220
      US 20070293683
                                                                                      20070828
                               А
      IN 2007CN04593
                                        20080111
                                                                                      20071015
                          A 20020207

A3 20030206

A3 20030206

A3 20030206

W 20030206

A3 20040804
PRAI GB 2002-2873
      AU 2003-244444
      CN 2003-803556
      NZ 2003-534315
      WO 2003-EP1188
      IN 2004-CN1716
```

US 2005-503538 A3 20050120

OS MARPAT 139:180080

The present invention relates to a process for the preparation of the title AB compds., amides I [R1, R2, R3, R4, R5 = lower alkyl, amino, lower alkoxycarbonyl, unsubstituted or substituted radical selected from benzylamino, benzoylamino, pyrrolidinyl, piperazinyl, 4-methylpiperazinyl, H, cyano, etc., with substituents selected from cyano, lower alkyl, CF3, halogen, etc.; R1R2 or R2R3 or R3R4 or R4R5 = substituted or unsubstituted alkylene radical with 4 carbons, substituents = cyano, hydroxy, 4-methylpiperazinyl-substituted lower alkyl, etc. while the other three radicals are independently H, cyano, hydroxy, CF3, etc.; R6, R7, or R8 = halogen, NH2, NO2, NHCOCF3, NHCOMe, NHC(NH)NH2 while the other two radicals are H, lower alkyl, lower fluorinated alkyl, benzyl, Ph, Me]. For example, benzamide II was prepared by reacting 4-(3-pyridyl)-2-pyridineamine with N-(3-bromo-4-methylphenyl)-4-(4-methylpiperazin-1-ylmethyl)benzamide, which was prepared by condensing 3-bromo-4-methylaniline and 4-(4-methylpiperazin-1-ylmethyl)benzoic acid Me ester in toluene in the presence of AlMe3.

IT 581076-66-6P

RN

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(preparation of N-(pyridin-3-ylpyrimidin-2-ylaminophenyl) benzamide derivs.) 581076-66-6 CAPLUS

CN Benzamide, 4-(dichloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 47 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2003:591164 CAPLUS
ΑN
     139:149642
DN
     Preparation of benzoylaminophenylaminopyrimidinylpyridines as antitumor
ΤI
     agents
ΙN
     Boernsen Klaus Olaf; End, Peter; Gross, Gerhard; Pfaar, Ulrike
    (Novartis Ag.) Switz.; Novartis Pharma Gmbh
     PCI Int. Appl., 50 pp.
SO
     CODEN: PIXXD2
DT
     Patent
                                       common assignee
     English
LA
FAN.CNT 1
     PATENT NO.
                           KIND
                                     DATE
                                                 APPLICATION NO.
                                                                            DATE
                            ____
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                                                  _____
                                                 WO 2003-EP613
     WO 2003062220
                                     20030731
                             A1
                                                                             20030122
PΙ
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,
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                                                   EP 2003-731700
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     CN 1646519
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                                                  KR 2007-711065
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     JP 2009051837
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                                    20090312
                                                                              20080813
PRAI GB 2002-1508
                             Α
                                    20020123
     EP 2003-731700
                             А3
                                     20030122
     JP 2003-562099
                             АЗ
                                     20030122
     WO 2003-EP613
                              W
                                     20030122
     KR 2004-711382
                              А3
                                     20040722
OS
     MARPAT 139:149642
     Title compds. I [R1 = , OH; R2 = H, alkyl, hydroxyalkyl; A = NR3R4, CR3R4,
AB
     OR3R4; R3R4 = (un)substituted alkylene, oxaalkylene, azaalkylene; at least
     one N atom is substituted by O] were prepared for use as antitumor agents
     (no data). Thus, I [R1 = H, R2 = Me, A = 4-methyl-4-oxido-1-piperazinyl]
     was prepared by oxidation of I [R1 = H, R2 = Me, A = 4-methyl-1-piperazinyl].
ΙT
     152459-94-4
     RL: RCT (Reactant); RACT (Reactant or reagent)
```

(preparation of benzoylaminophenylaminopyrimidinylpyridines as antitumor agents)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

IT 180258-56-4P 571187-02-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of benzoylaminophenylaminopyrimidinylpyridines as antitumor agents)

RN 180258-56-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(1-oxido-3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 571187-02-5 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(1-oxido-3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 48 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2003:551338 CAPLUS
AN
DN
     139:111702
     Compositions and methods using ATP-dependent \gamma-secretase modulators
ΤI
     for prevention and treatment of amyloid-\beta peptide-related disorders,
     and screening methods for modulators of A\beta
IN
     Netzer, William J.; Greengard, Paul; Xu, Huaxi
     The Rockefeller University, USA
PA
SO
     PCT Int. Appl., 142 pp.
     CODEN: PIXXD2
DT
     Patent
T.A
     English
FAN.CNT 1
                        KIND
                                DATE
                                           APPLICATION NO.
     PATENT NO.
                                                                   DATE
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     WO 2003057165
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                                20030717
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                                                                   20030106
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                         A3
     WO 2003057165
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             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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     AU 2003206397
     AU 2003206397
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                         A1
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                                            US 2003-337261
     US 20040028673
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                                            EP 2003-703695
                         A2
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                                                                    20030106
     EP 1469810
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             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2005522417 T 20050728
                                          JP 2003-557524
                                                                   20030106
                         Ρ
PRAI US 2002-345009P
                                20020104
     WO 2003-US249
                          W
                                20030106
OS
     MARPAT 139:111702
     The invention provides methods and compns. for modulating levels of
AΒ
     amyloid-\beta peptide (A\beta) exhibited by cells or tissues. The
     invention also provides pharmaceutical compns. and methods of screening
     for compds. that modulate A\beta levels. The invention also provides
     modulation of A\beta levels via selective modulation (e.g., inhibition)
     of ATP-dependent \gamma-secretase activity. The invention also provides
     methods of preventing, treating or ameliorating the symptoms of a
     disorder, including but not limited to an A\beta-related disorder, by
     administering a modulator of \gamma-secretase, including, but not limited
     to, a selective inhibitor of ATP-dependent \gamma-secretase activity or
     an agent that decreases the formation of active (or optimally active)
     \gamma-secretase. The invention also provides the use of inhibitors of
     ATP-dependent γ-secretase activity to prevent, treat or ameliorate
     the symptoms of Alzheimer's disease.
     560070-08-8
ΙT
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Page 152

(ATP-dependent enzyme modulators for prevention and treatment of amyloid-  $\!\beta$  peptide-related disorders, and screening methods for

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)

modulators of  $A\beta$ )

RN 560070-08-8 CAPLUS

CN Benzamide, 4-[(4-hydroxy-1-piperazinyl)methyl]-N-[3-methyl-4-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

$$\begin{array}{c} \text{NMe} \\ \text{NH} \\ \text{NH}$$

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 49 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
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AN 2002:889028 CAPLUS

- DN 137:379974
- TI Pyridylpyrimidine derivatives as effective compounds against prion diseases
- IN Stein-Gerlach, Matthias; Salassidis, Konstadinos; Bacher, Gerald; Mueller, Stefan
- PA Axxima Pharmaceuticals A.-G., Germany
- SO PCT Int. Appl., 96 pp.
- CODEN: PIXXD2
  DT Patent
- LA English
- FAN.CNT 1

	PA:					KIND		DATE		APPLICATION NO WO 2002-EP5420								
ΡI						A2 A3												
		W:						AU,										
			CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KΡ,	KR,	KΖ,	LC,	LK,	LR,
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NΖ,	OM,	PH,
								SE,			,	SL,	ΤJ,	TM,	TN,	TR,	TT,	TZ,
					,			YU,										
		RW:						MZ,										
								TM,										
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		2446939								CA 2002-2446939				20020516				
		2446939				A1 20021121								00000516				
		2002342878 1395261						AU 2002-342878										
		1395261			A2 20040310 B1 20060628				EP 2002-769490					20020310				
	LP			DF	СП			ES,		CB	CD	тт	тт	TIT	MT	C L	МС	рт
		Γ.											шт,	шо,	1411	or,	1.10,	т т,
	ΔТ	3315	331519				,			CY, AL, TR AT 2002-769490					20020516			
		1721609 1721609			<b>A</b> 2		20061115											
					A3 20070													
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	US	20030176443			A1		2003	0918	US 2002-204041						20020816			
	US	20060217404				A1	A1 20060928			US 2006-350410					20060208			
PRAI	ΕP	2001-111858 2001-293528P 2001-117113 2001-305898P				A 20010516			0516									
	US				P		2001	0529										
	EΡ					Α	A 2001073 P 2001073											
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						A3 20020516												
		2002-EP5420				W		2002										
		2002		В1		2002	0816											
OS	MAI	RPAT	137:	3799	74													

AB The present invention relates to pyridylpyrimidine derivs. of the general formula (I): wherein R represents hydrogen or Me and Z represents nitrogen containing functional groups, the use of the pyridylpyrimidine derivs. as pharmaceutically active agents, especially for the prophylaxis and/or

treatment of prion infections and prion diseases, as well as compns. containing at least one pyridylpyrimidine derivative and/or pharmaceutically acceptable salt thereof. Furthermore, the present invention is directed

to methods for preventing and/or treating prion infections and prion diseases using said pyridylpyrimidine derivs. Human cellular protein kinases, phosphatases and cellular signal transduction mols. are disclosed as targets for detecting, preventing and/or treating prion infections and diseases, especially BSE, vCJD, or CJD, which can be inhibited by the inventive pyridylpyrimidine derivs.

152459-94-4 152459-96-6 152459-98-8 IT152459-99-9 404844-11-7 475587-13-4 475587-14-5 475587-15-6 475587-18-9 475587-19-0 475587-25-8 475587-26-9 475587-27-0 475587-29-2 475587-31-6 475587-32-7 475587-38-3 475587-43-0 475587-44-1 475587-46-3 475587-47-4 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (pyridylpyrimidine derivs. as effective compds. against prion diseases) RN 152459-94-4 CAPLUS Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-CN (CA INDEX NAME)

RN 152459-96-6 CAPLUS
CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS
CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-13-4 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-14-5 CAPLUS

CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-15-6 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-18-9 CAPLUS

CN Benzamide, 3,5-dimethoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-19-0 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(trifluoromethoxy)- (CA INDEX NAME)

RN 475587-25-8 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-26-9 CAPLUS

CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-27-0 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-29-2 CAPLUS

CN Benzamide, 4-cyano-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-31-6 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-32-7 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-38-3 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]-4-(trifluoromethoxy)- (CA INDEX NAME)

RN 475587-43-0 CAPLUS

CN Benzamide, 3,5-dimethoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-44-1 CAPLUS

CN Benzamide, 3,4,5-trimethoxy-N-[4-methyl-3-[[4-(4-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-46-3 CAPLUS

CN Benzamide, 4-methoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 475587-47-4 CAPLUS

CN Benzamide, 3,5-dimethoxy-N-[4-methyl-3-[[4-(2-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 50 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
     2002:220573 CAPLUS
ΑN
DN
     136:247605
     N-phenyl-2-pyrimidinamine derivatives as tyrosine kinase inhibitors
ΤI
ΙN
     Buerger, Hans Michael; Caravatti, Giorgio; Zimmermann, Juerg; Manley, Paul
     William; Breitenstein, Werner; Cudd, Margaret Amelia
PA
     Novartis A.-G., Switz.; Novartis-Erfindungen Verwaltungsgesellschaft
SO
     PCT Int. Appl., 54 pp.
     CODEN: PIXXD2
DT
     Patent
                                                                              102(b)
LΑ
     English
FAN.CNT 1
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     PATENT NO.
                                 DATE
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     WO 2002022597
                                 20020321 WO 2001-EP10503
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                                                                    20010911
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             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,
             US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
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             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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     US 200401024<u>53</u>
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     US 7081532 ODP
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     US 20060223818
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                                             US 2006-448649
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                                             US 2007-828367
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     CN 2001-815539
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     WO 2001-EP10503
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                                 20010911
     US 2003-363841
                          А3
                                 20030310
     US 2006-448649
                                 20060607
                          A1
     MARPAT 136:247605
OS
     The N-phenyl-2-pyrimidinamines I [R = \text{substituted Ph}; R1 = (\text{un}) \text{substituted}]
AB
     pyrazinyl, 1-methylpyrrolyl, aminophenyl, aminoalkylphenyl, indolyl,
     imidazolyl, pyridyl, pyridyl N-oxide; R2, R3 = H, alkyl] were prepared for
     use as tyrosine kinase inhibitors with IC50 of 3-300 nM. Thus, the
     benzamide II [R4 = 4-ethylpiperazino] was prepared from II [R4 = C1] and
     1-ethylpiperazine.
     404844-10-6 404844-11-7
ΙT
     RL: RCT (Reactant); RACT (Reactant or reagent)
        (preparation of N-phenyl-2-pyrimidinamine derivs. as tyrosine kinase
        inhibitors)
```

RN

404844-10-6 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

RN 404844-11-7 CAPLUS

CN Benzamide, 4-(chloromethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

IT 404843-95-4P 404843-96-5P 404844-04-8P

404844-05-9P 404844-06-0P 404844-07-1P

404844-08-2P 404844-09-3P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of N-phenyl-2-pyrimidinamine derivs. as tyrosine kinase inhibitors)

RN 404843-95-4 CAPLUS

CN Benzamide, 4-[(diethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404843-96-5 CAPLUS

CN Benzamide, 4-[(dimethylamino)methyl]-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-04-8 CAPLUS

CN Benzamide, 3-(dimethylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-05-9 CAPLUS

CN Benzamide, 4-(dimethylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-06-0 CAPLUS

CN Benzamide, 4-(acetylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-07-1 CAPLUS

CN Benzamide, 3-(acetylamino)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-08-2 CAPLUS

CN Benzamide, 3-hydroxy-4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 404844-09-3 CAPLUS

CN Benzamide, 4-(1,1-dimethylethyl)-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L11 ANSWER 51 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
```

AN 2000:133467 CAPLUS

DN 132:175828

- TI Method using phthalazine derivatives for treating ocular neovascular diseases
- IN Brazzell, Romulus Kimbro; Wood, Jeanette Marjorie; Campochiaro, Peter
  Anthony; Kane, Frances Elizabeth
- PA Novartis A.-G., Switz.; Novartis-Erfindungen Verwaltungsgesellschaft m.b.H.
- SO PCT Int. Appl., 30 pp. CODEN: PIXXD2
- DT Patent
- LA English

FAN.CNT 1

	PAT	PATENT NO.				KIN	D	DATE			APPLICATION NO.					DATE			
ΡΙ		2000009098 2000009098						0224 0518	WO 1999-EP5876					19990811					
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	AU 9957330								AU 1999-57330										
		? 1105136 ? 1105136							EP 1999-944371						19990811				
	EP				В1														
		R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR	, IT,	LI,	LU,	ΝL,	SE,	MC,	PT,	
			ΙE,	SI,	LT,	LV,	FI,	RO,	CY										
	JΡ	P 2002522475				${f T}$	20020723			JP 2000-564601						19990811			
	AT	3714	53			${ m T}$		2007	0915		ΑT	1999-	9443	71		1	9990	811	
	ES	2291	041			Т3		2008	0216		ES	1999-	9443	71		1	9990	811	
	TW 239243				В		20050911			TW 1999-88113778					19990812				
	US	6214	819			В1		2001	0410		US	1999-	4427	81		1	9991	118	
PRAI	US	1998	-133	855		A		1998	0813										
	WO	1999	-EP5	876		W		1999	0811										

- OS MARPAT 132:175828
- AB Phthalazines are used in the preparation of medicaments for the treatment of ocular neovascularization.
- IT 152459-94-4, CGP 53716
  - RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
  - (phthalazine derivs. for treating ocular neovascular diseases)
- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 52 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1999:316816 CAPLUS
- DN 131:125171
- TI Prevention of cardiac allograft arteriosclerosis by protein tyrosine kinase inhibitor selective for platelet-derived growth factor receptor
- AU Sihvola, Roope; Koskinen, Petri; Myllarniemi, Marjukka; Loubtchenkov, Michael; Hayry, Pekka; Buchdunger, Elisabeth; Lemstrom, Karl
- CS Cardiopulmonary Research Group of the Transplantation Laboratory, University of Helsinki and Helsinki University Central Hospital, Helsinki, FIN-00014, Finland
- SO Circulation (1999), 99(17), 2295-2301 CODEN: CIRCAZ; ISSN: 0009-7322
- PB Lippincott Williams & Wilkins
- DT Journal
- LA English
- AΒ Background-Increased immunoreactivity of platelet-derived growth factor (PDGF)-AA, -R $\alpha$ , and -R $\beta$  in intimal cells correlates with the development of cardiac allograft arteriosclerosis, a condition for which there is little or no current therapy. Therefore, we hypothesized that PDGF may have a rate-limiting role in the development of this disease. Methods and Results-The hypothesis was tested in a rat model of heterotopic cardiac and aortic allografts using dark agouti (AG-B4, RT1a) donors and Wistar-Furth (AG-B2, RT1u) recipients. The recipients received CGP 53716, a selective PDGF-R protein tyrosine kinase inhibitor, 50 mg  $\bullet$  kg-1  $\bullet$  d-1, or vehicle for 60 days. Cardiac allograft recipients also received background cyclosporin A immunosuppression. Our results demonstrate that CGP 53716 significantly reduced the incidence and intensity of arteriosclerotic lesions in rat cardiac and aortic allograft recipients. When rat coronary smooth muscle cells were stimulated in vitro with PDGF-AA or -BB in the presence of interleukin-1 $\beta$  or tumor necrosis factor- $\alpha$ , CGP 53716 significantly inhibited only AA-ligand-induced but not BB-ligand-induced replication. Concomitantly, in quant. reverse transcriptase-polymerase chain reaction, interleukin- $1\beta$  or tumor necrosis factor- $\alpha$  stimulation specifically upregulated the expression of PDGF-R $\alpha$  mRNA but not of other ligand or receptor genes in cultured smooth muscle cells. Conclusions-We conclude that a PDGF-AA/R $\alpha$ -dependent cycle is induced in the generation of allograft arteriosclerosis that may be inhibited by blocking of signaling downstream of PDGF-R.

IT 152459-94-4, CGP 53716

RN

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prevention of cardiac allograft arteriosclerosis by protein tyrosine kinase inhibitor selective for platelet-derived growth factor receptor) 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 53 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1999:185580 CAPLUS
- DN 131:27908
- TI Inhibition of obliterative bronchiolitis by platelet-derived growth factor receptor protein-tyrosine kinase inhibitor
- AU Kallio, E.; Koskinen, P.; Buchdunger, E.; Lemstrom, K.
- CS Transplantation Laboratory, University of Helsinki, Helsinki, FIN-00014, Finland
- SO Transplantation Proceedings (1999), 31(1/2), 187 CODEN: TRPPA8; ISSN: 0041-1345
- PB Elsevier Science Inc.
- DT Journal
- LA English
- AB The authors investigated the role of platelet-derived growth factor (PDGF) in the development of obliterative bronchiolitis and the effect of a protein-tyrosine kinase (PTK) inhibitor selective for PDGF receptors (CGP53716) on obliterative bronchiolitis in rats with tracheal transplantations. Significant upregulation of allograft PDGF-AA and  $\alpha$  receptor expression was observed at 3 and 10 days after transplantation compared with syngeneic grafts. This study suggests a regulatory role for PDGF especially for PDGF-AA and  $\alpha$  receptor in the development of obliterative bronchiolitis. This study also demonstrates that inhibition of PDGF receptors with protein-tyrosine kinase inhibitor significantly reduces myofibroproliferation and airway occlusion suggesting a novel therapeutic strategy for the prevention of obliterative bronchiolitis in lung transplantation.
- IT 152459-94-4, CGP53716

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(inhibition of obliterative bronchiolitis by platelet-derived growth factor receptor protein-tyrosine kinase inhibitor in relation to role of platelet-derived growth factor and treatment in lung transplantation)

- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 54 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1999:185568 CAPLUS
- DN 131:13660
- TI Prevention of cardiac allograft arteriosclerosis by protein-tyrosine kinase inhibitor selective for platelet-derived growth factor receptor
- AU Koskinen, P.; Sihvola, R.; Myllarniemi, M.; Hayry, P.; Buchdunger, E.; Lemstrom, K.
- CS Cardiopulmonary Research Group of the Transplantation Laboratory, University of Helsinki and Helsinki University Central Hospital, Helsinki, FIN-00014, Finland
- SO Transplantation Proceedings (1999), 31(1/2), 102 CODEN: TRPPA8; ISSN: 0041-1345
- PB Elsevier Science Inc.
- DT Journal
- LA English

RN

- AB Increased immunoreactivity of platelet-derived growth factor (PDGF) -AA, -R $\alpha$ , and -R $\beta$  in intimal cells correlates with the development of cardiac allograft arteriosclerosis. The results of this study conclude that PDGF-AA-R $\alpha$  dependent cycle is induced in the generation of allograft arteriosclerosis, which may be inhibited by blocking of signaling downstream of PDGF-R.
- IT 152459-94-4, Cgp 53716
  RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prevention of cardiac allograft arteriosclerosis by protein-tyrosine kinase inhibitor selective for platelet-derived growth factor receptor) 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 55 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1997:728227 CAPLUS
- DN 128:43608
- OREF 128:8399a,8402a
- TI Inhibition of platelet-derived growth factor receptor tyrosine kinase inhibits vascular smooth muscle cell migration and proliferation
- AU Myllarniemi, Marukka; Calderon, Lazaro; Lemstrom, Karl; Buchdunger, Elisabeth; Hayry, Pekka
- CS Transplantation Laboratory, University of Helsinki, Helsinki, Finland
- SO FASEB Journal (1997), 11(13), 1119-1126 CODEN: FAJOEC; ISSN: 0892-6638
- PB Federation of American Societies for Experimental Biology
- DT Journal
- LA English
- Platelet-derived growth factors (PDGFs) and their receptors (PDGFRs) have AΒ been linked to vascular smooth muscle cell (SMC) migration and proliferation leading to atherosclerosis, restenosis, and chronic allograft rejection. This study describes the effect of CGP 53716, a specific PDGFR tyrosine kinase inhibitor on SMC proliferation and migration in vitro and in neointimal formation in vivo. CGP 53716 inhibited dose dependently tyrosine phosphorylation of both the known PDGFRs: the PDGFR- $\alpha$  and PDGFR- $\beta$ . In primary rat SMC cultures, a dose-dependent inhibition of PDGF-AA and PDGF-BB induced migration, and tritiated thymidine incorporation of SMC was seen at nontoxic concns. After rat carotid artery ballooning injury in vivo, the migration of  $\alpha$ -actin-pos. cells on the luminal side of internal elastic lamina was decreased with 50  $mg \cdot kg - 1 \cdot day - 1$  of CGP 53716 from 38  $\pm$  10 (control group) to 4  $\pm$  2 (P<0.0001, Mann-Whitney U test, N=18). CGP 53716 did not inhibit the number of replicating bromodeoxyuridine (BrdU)-incorporating cells in the intima, media, or adventitia during BrdU labeling at 0-96 postoperative h, though it inhibited significantly (P<0.01) the replication of medial and intimal cells from 93 h onward. Intima/media ratio was inhibited by 40% after 14 days in the CGP 53716-treated group (P=0.028) after rat aortic denudation. The results indicate that inhibition of the PDGFR tyrosine kinase inhibits SMC migration and proliferation in vitro, SMC migration, and, to a lesser extent, proliferation after ballooning injury in vivo, confirming a causal role for activation of the PDGFR and the formation of neointimal lesions. ΙT 152459-94-4, CGP 53716
  - RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
    - (PDGFR tyrosine kinase inhibitor CGF 53716 antiatherosclerotic activity)
- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L11 ANSWER 56 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1997:674685 CAPLUS
- DN 127:355149
- OREF 127:69431a,69434a
- TI Inhibition of cell growth: effects of the tyrosine kinase inhibitor CGP 53716
- AU Major, Terry C.; Keiser, Joan A.
- CS Parke-Davis Pharmaceutical Research Division, Department of Vascular and Cardiac Diseases, Warner Lambert Company, Ann Arbor, MI, USA
- SO Journal of Pharmacology and Experimental Therapeutics (1997), 283(1), 402-410 CODEN: JPETAB; ISSN: 0022-3565
- OD Williams & Williams
- PB Williams & Wilkins
- DT Journal
- LA English
- The growth factors, platelet-derived growth factor (PDGF) and basic AB fibroblast growth factor (bFGF), play major roles in enhanced smooth muscle cells growth in rodent blood vessels after vascular injury. Tyrosine kinase inhibition has been shown to be effective in blocking tyrosine phosphorylation at the PDGF and bFGF receptors in cultured fibroblast and vascular smooth muscle cells which in turn inhibits their proliferation. Our study evaluated the PDGF selective tyrosine kinase inhibitor, CGP 53716, on serum, PDGF-BB, bFGF or epidermal growth factor-induced growth responses in cultured rat aortic smooth muscle cells (RASMC) and Balb/3T3 fibroblasts (3T3). CGP 53716 inhibited serum-induced cell growth in RASMC, but not in 3T3 cells. CGP 53716 completely blocked PDGF-BB tyrosine receptor autophosphorylation in RASMC and 3T3 cells, PDGF-BB-induced phosphorylation of mitogen-activated protein kinase at 1  $\mu\text{M}$  in RASMC and inhibited PDGF-BB-induced c-Fos protein expression at 1 μM in RASMC; consistent with inhibition of PDGF-BB-induced DNA synthesis. To examine the selectivity of CGP 53716, PDGF-BB, bFGF or EGF-induced DNA synthesis was measured using thymidine incorporation. CGP 53716 inhibited PDGF-BB-, bFGF- and EGF-induced DNA synthesis in a concentration-dependent manner in each cell line. CGP 53716 showed a 2- to 4-fold selectivity for PDGF-BB-stimulated DNA synthesis over bFGF or EGF in RASMC or 3T3 cells. To rule out that bFGF induced the release of endogenous PDGF, an antibody to PDGF-AB, which binds to all three isoforms of PDGF, was coincubated with bFGF and did not suppress the DNA synthesis induced by bFGF. Based on these results, CGP 53716 is not selective for the PDGF receptor as previously reported. However, EGF-stimulated receptor autophosphorylation of mitogen-activated protein kinase phosphorylation and c-Fos protein expression were not inhibited by CGP 53716 at 1 or 10  $\mu M$  in RASMC. The findings suggest that CGP 53716 may inhibit multiple growth factor pathways as indicated by inhibition of DNA synthesis. However, these effects must be downstream from the signaling for c-Fos protein expression or use an alternate signaling route. These results further suggest that CGP 53716 may have a therapeutic potential for the treatment of vascular proliferative diseases which are stimulated by not only PDGF but other growth factors such as bFGF and EGF.
- IT 152459-94-4, CGP 53716
  - RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
    - (tyrosine kinase inhibitor CGP 53716 inhibition of vascular smooth muscle cell growth)
- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-

(CA INDEX NAME)

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L11 ANSWER 57 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
AN
    1997:617993 CAPLUS
     127:272793
DN
OREF 127:53117a,53120a
     Antiproliferative combinations, containing raf-targeted oligonucleotides
     and chemotherapeutic compounds
ΙN
     Muller, Marcel; Geiger, Thomas; Altmann, Karl-Heinz; Fabbro, Doriano;
     Monia, Brett
     Novartis AG, Switz.
PA
     PCT Int. Appl., 118 pp.
SO
     CODEN: PIXXD2
DT
     Patent
     English
T.A
FAN.CNT 1
                         KIND
                                             APPLICATION NO.
     PATENT NO.
                                  DATE
                                                                      DATE
                         ____
     WO 9732604
                                  19970912 WO 1997-EP875
PΙ
                          A1
                                                                       19970224
         W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HU, IL, IS, JP,
         KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML,
             MR, NE, SN, TD, TG
     AU 9720925
                                  19970922
                                              AU 1997-20925
                                                                        19970224
                           Α
     ZA 9701936
                                  19970908
                                               ZA 1997-1936
                                                                        19970306
                           Α
PRAI US 1996-612787
                           Α
                                  19960307
     WO 1997-EP875
                           W
                                  19970224
     The invention relates to combinations of raf-targeted (especially
AB
     c-raf-targeted) deoxyribo- and ribo-oligonucleotides and derivs. thereof
     with other chemotherapeutic compds., as well as to pharmaceutical prepns.
     and/or therapies, in relation to disease states which respond to such
     oligonucleotides or oligonucleotide derivs., especially to modulation of the
     activity of a regulatory protein. In particular, the invention relates to
     products or combinations comprising antisense oligonucleotides or
     oligonucleotide derivs. targeted to nucleic acids encoding raf and other
     (preferably standard) chemotherapeutics, either in fixed combination or for
     chronol. staggered or simultaneous administration, and the combined use of
     both classes of compds., either in fixed combination or for chronol.
     staggered or simultaneous administration, for the treatment of
     proliferative diseases, especially tumor diseases, that can be treated by
     inhibition of raf activity, i.e., where the antisense oligonucleotides or
     oligonucleotide derivs. are targeted to nucleic acids encoding the
     regulatory protein raf or active mutated derivs. thereof.
     152459-94-4
ΤТ
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
        (raf-targeted oligonucleotide-chemotherapeutic compound antiproliferative
        combinations)
RN
     152459-94-4 CAPLUS
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Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-

CN

(CA INDEX NAME)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

# 10/560,352

L11 ANSWER 58 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1997:123312 CAPLUS

DN 126:220297

OREF 126:42443a,42446a

TI Potent and selective inhibitors of the ABL-kinase: phenylaminopyrimidine (PAP) derivatives

AU Zimmermann, Jurg; Buchdunger, Elisabeth; Mett, Helmut; Meyer, Thomas; Lydon, Nicholas B.

CS Ciba Pharmaceuticals Division, Oncology Research Department, Ciba-Geigy Limited, Basel, CH-4002, Switz.

SO Bioorganic & Medicinal Chemistry Letters (1997), 7(2), 187-192 CODEN: BMCLE8; ISSN: 0960-894X

PB Elsevier

DT Journal

LA English

AB Due to its relatively clear etiol., chronic myelogenous leukemia (CML) represents an ideal disease target for a therapy using a selective inhibitor of the Bcr-Abl tyrosine protein kinase. Extensive optimization of the class of phenylamino-pyrimidines yielded highly potent and selective Bcr-Abl kinase inhibitors.

IT 152459-94-4P 152459-96-6P 152459-98-8P

152459-99-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of phenylaminopyrimidine derivs. as inhibitors of ABL-kinase)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

# 10/560,352

L11 ANSWER 59 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1996:380210 CAPLUS

DN 125:114681

OREF 125:21527a,21530a

TI Pyrimidine derivatives and processes for the preparation thereof

IN Zimmermann, Juerg

PA Ciba-Geigy Corporation, USA

SO U.S., 18 pp., Cont.-in-part of U.S. Ser. No. 42,322, abandoned. CODEN: USXXAM

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
ΡI	US 5521184	A	19960528	US 1994-234889	19940428		
	CA 2148477	A1	19950413	CA 1994-2148477	19940921		
PRAI	CH 1992-1083	A	19920403				
	US 1993-42322	B2	19930402				
	СН 1993-2966	A	19931001				

OS MARPAT 125:114681

AB There are described N-phenyl-2-pyrimidine-amine derivs. (I) wherein R1 is 4-pyrazinyl, 1-methyl-1H-pyrrolyl, amino- or amino-lower alkyl-substituted Ph wherein the amino group in each case is free, alkylated or acylated, 1H-indolyl or 1H-imidazolyl bonded at a five-membered ring carbon atom, or unsubstituted or lower alkyl-substituted pyridyl bonded at a ring carbon atom and unsubstituted or substituted at the nitrogen atom by oxygen; R2 and R3 are hydrogen or lower alkyl; one or two of R4, R5, R6, R7 are each nitro, fluoro-substituted lower alkoxy or -N(R9)C(:X)(Y)nR10. These compds. can be used, for example, in the therapy of tumoral diseases. Three example formulations are given.

IT 152459-94-4P 152459-96-6P 152459-98-8P 152459-99-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of phenylaminopyrimidine derivs. as antitumor agents)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

# 10/560,352

L11 ANSWER 60 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN

AN 1996:368753 CAPLUS

DN 125:167896

OREF 125:31461a,31464a

TI (Phenylamino)pyrimidine (PAP) derivatives: a new class of potent and highly selective PDGF-receptor autophosphorylation inhibitors

AU Zimmermann, Juerg; Buchdunger, Elisabeth; Mett, Helmut; Meyer, Thomas; Lydon, Nicholas B.; Traxler, Peter

CS Oncol. Res. Dep., Ciba Pharm. Div., Basel, CH-4002, Switz.

SO Bioorganic & Medicinal Chemistry Letters (1996), 6(11), 1221-1226 CODEN: BMCLE8; ISSN: 0960-894X

PB Elsevier

DT Journal

LA English

AB (Phenylamino)pyrimidines represent a novel class of inhibitors of the PDGF-receptor autophosphorylation with a high degree of selectivity vs. other tyrosine and serine/threonine kinases. Optimum activity of ca 10 nM (IC50) was observed when the phenylamino-group which is attached to the pyrimidine carries a benzamide-moiety with a lipophilic substituent in 4-position. The target compds. were derivs. of 4-methyl-N3-[4-(3-pyridinyl)-2-pyrimidinyl]-1,3-benzenediamine I (R2 = H, Me; R3 = H, benzoyl, Me, etc.; R4 = H, benzoyl, etc.). A 2-thienyl analog of I was also prepared and tested.

IT 152459-94-4P 152459-96-6P 152459-98-8P 152459-99-9P 180258-53-1P 180258-55-3P 180258-56-4P 180258-57-5P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of [(pyridinyl)pyrimidinyl]benzenediamines as tyrosine kinase or serine/threonine kinase inhibitors)

RN 152459-94-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 180258-53-1 CAPLUS

CN Benzamide, N-benzoyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 180258-55-3 CAPLUS

CN Benzamide, N-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 180258-56-4 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(1-oxido-3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 180258-57-5 CAPLUS

CN Benzamide, N-[4-methyl-3-[[4-(2-thienyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

- L11 ANSWER 61 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 1995:479796 CAPLUS
- DN 122:230302
- OREF 122:41791a,41794a
- TI Selective inhibition of the platelet-derived growth factor signal transduction pathway by a protein-tyrosine kinase inhibitor of the 2-phenylaminopyrimidine class
- AU Buchdunger, Elisabeth; Zimmermann, Juerg; Mett, Helmut; Meyer, Thomas; Mueller, Marcel; Regenass, Urs; Lydon, Nicholas B.
- CS Oncology Research Department, CIBA-Geigy Limited, Basel, CH-4002, Switz.
- SO Proceedings of the National Academy of Sciences of the United States of America (1995), 92(7), 2558-62 CODEN: PNASA6; ISSN: 0027-8424
- PB National Academy of Sciences
- DT Journal
- LA English
- AΒ The platelet-derived growth factor (PDGF) receptor is a member of the transmembrane growth factor receptor protein family with intrinsic protein-tyrosine kinase activity. The authors described a potent protein-tyrosine kinase inhibitor (CGP 53716) that shows selectivity for the PDGF receptor in vitro and in the cell. The compound shows selectivity for inhibition of PDGF-mediated events such as PDGF receptor autophosphorylation, cellular tyrosine phosphorylation, and c-fos mRNA induction in response to PDGF stimulation of intact cells. In contrast, ligand-induced autophosphorylation of the epidermal growth factor (EGF) receptor, insulin receptor, and the insulin-like growth factor I receptor, as well as c-fos mRNA expression induced by EGF, fibroblast growth factor, and phorbol ester, was insensitive to inhibition by CGP 53716. In antiproliferative assays, the compound was  $\approx 30$ -fold more potent in inhibiting PDGF-mediated growth of v-sis-transformed BALB/c 3T3 cells relative to inhibition of EGF-dependent BALB/MK cells, interleukin-3-dependent FDC-P1 cells, and the T24 bladder carcinoma line. When tested in vivo using highly tumorigenic v-sis- and human c-sis-transformed BALB/c 3T3 cells, CGP 53716 showed antitumor activity at well-tolerated doses. In contrast, CGP 53716 did not show antitumor activity against xenografts of the A431 tumor, which overexpresses the EGF receptor. These findings suggest that CGP 53716 may have therapeutic potential for the treatment of diseases involving abnormal cellular proliferation induced by PDGF receptor activation.
- IT 152459-94-4
  - RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES
    - (phenylaminopyrimidine derivative as inhibitor of platelet-derived growth factor receptor tyrosine kinase)
- RN 152459-94-4 CAPLUS
- CN Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-(CA INDEX NAME)

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L11 ANSWER 62 OF 62 CAPLUS COPYRIGHT 2009 ACS on STN
AN 1994:107056 CAPLUS
          120:107056
DN
OREF 120:18901a,18904a
         Preparation of 2-anilinopyrimidines as antiatherosclerotics and neoplasm
           inhibitors
ΙN
           Zimmermann, Juerq
          Ciba-Geigy A.-G., Switz.
          Eur. Pat. Appl., 23 pp.
          CODEN: EPXXDW
DT
          Patent
LΑ
          German
FAN.CNT 3
                                                                                           APPLICATION NO.
          PATENT NO.
                                            KIND DATE
           _____
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          EP 564409 A1 19931006
EP 564409 B1 20000119
                                                                                                                                               19930325
                                                                                            EP 1993-810219
РΤ
                                   BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
T 20000215 AT 1993-810219 19930325
T3 20000501 ES 1993-810219 19930325
B1 20020830 PT 1993-1458 19930331
A1 19931004 CA 1993-2093203 19930401
C 20021126
B6 19980715 CZ 1993-560 19930401
C1 19990210 RU 1993-5357 19930401
A 19990411 IL 1993-105264 19930401
A 19990411 IL 1993-105264 19930401
A 19931004 NO 1993-1283 19930401
A 19931004 NO 1993-1283 19930402
B1 19980309
A 19931004 ZA 1993-2397 19930402
B2 19960222
A 19931027 CN 1993-103566 19930402
B2 19960222
A 19931027 CN 1993-103566 19930402
B2 1996022
A 19931027 CN 1993-78096 19930402
B3 19980309 HU 1993-982 19930402
B4 19940329 JP 1993-78096 19930405
B5 19980128
T3 20000731 GR 2000-400623 20000310
                  R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE
           AT 188964
           ES 2142857
           PT 564409
          FI 109534
          CA 2093203
          CA 2093203
          CZ 283944
          RU 2125992
           IL 105264
           SK 280620
          NO 9301283
          NO 302473
           ZA 9302397
          AU 9335694
          AU 666709
          CN 1077713
          CN 1043531
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          JP 2706682
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                                                     T3 20000731 GR 2000-400623
                                                                                                                                                 20000310
PRAI CH 1992-1083
                                                     A 19920403
OS
          MARPAT 120:107056
AB
          Title compds. [I; R1 = pyridyl, 4-pyrazinyl, (acyl)aminophenyl, etc.; R2,
          R3 = H, alkyl; 1 or 2 of R4-R8 = NO2, fluoroalkoxy, NR9C(:X)YnR10 and the
          others = H, alkyl, alkanoyl, CF3, etc.; R9 = H, alkyl; R10 = (cyclo) aliphatic group, heterocyclyl, aryl, etc.; X = O, S, NH, etc.; Y = O or NH; N = O or NH?
           1] were prepared Thus, 3-(O2N)C6H4NHC(:NH)NH2 [preparation from 3-(O2N)C6H4NH2
           given] was cyclocondensed with R1COCH: CHNMe2 (R1 = 3-pyridyl) (preparation from
           3-acetylpyridine given) to give I (R1 = 3-pyridyl, R2 = R3 = R5-R8 = H, R4
           = NO2). I had IC50 of .apprx.0.5 to 5 \muM against protein kinase C in
           vitro.
ΙT
           152459-94-4P 152459-96-6P 152459-98-8P
           152459-99-9P
           RL: SPN (Synthetic preparation); PREP (Preparation)
                  (preparation of, as antiatherosclerotic and neoplasm inhibitor)
RN
           152459-94-4 CAPLUS
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Benzamide, N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]-

CN

(CA INDEX NAME)

RN 152459-96-6 CAPLUS

CN Benzamide, 4-methyl-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-98-8 CAPLUS

CN Benzamide, 4-chloro-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

RN 152459-99-9 CAPLUS

CN Benzamide, 2-methoxy-N-[4-methyl-3-[[4-(3-pyridinyl)-2-pyrimidinyl]amino]phenyl]- (CA INDEX NAME)

# 10/560,352

=> log y COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 351.18 590.40

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE TOTAL ENTRY SESSION

CA SUBSCRIBER PRICE

-50.84 -50.84

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